15 Cents a Copy

THE OIL WEEKLY

Devoted Exclusively To The Production and Transportation of Oil and Gas

Engineering News Statistics

To Further Assure "IMMEDIATE SERVICE"

On

HUGHES

That the Oil Producing Industry may receive efficient, immediate twenty-four hour day service on Hughes Rock Bits, Core Bits, Tool Joints, Drilling Valves and Fittings, the Hughes Tool Company is erecting the $350,000.00 Finished Stock and Shipping Department Building pictured below.

The building is of reinforced concrete and fireproofed thru-out. Here ample stocks of Hughes Tools will be maintained at all times—assembled, boxed, weighed, ready for immediate shipment by freight, express or truck.

Twenty-four hour a day telephone service and a direct wire to the telegraph office further facilitates the promptness of handling all orders, emergency or otherwise.

This new building and equipment again emphasizes the twenty year policy of the Hughes Tool Company to give the oil operator, contractor and driller, the utmost in cooperation.

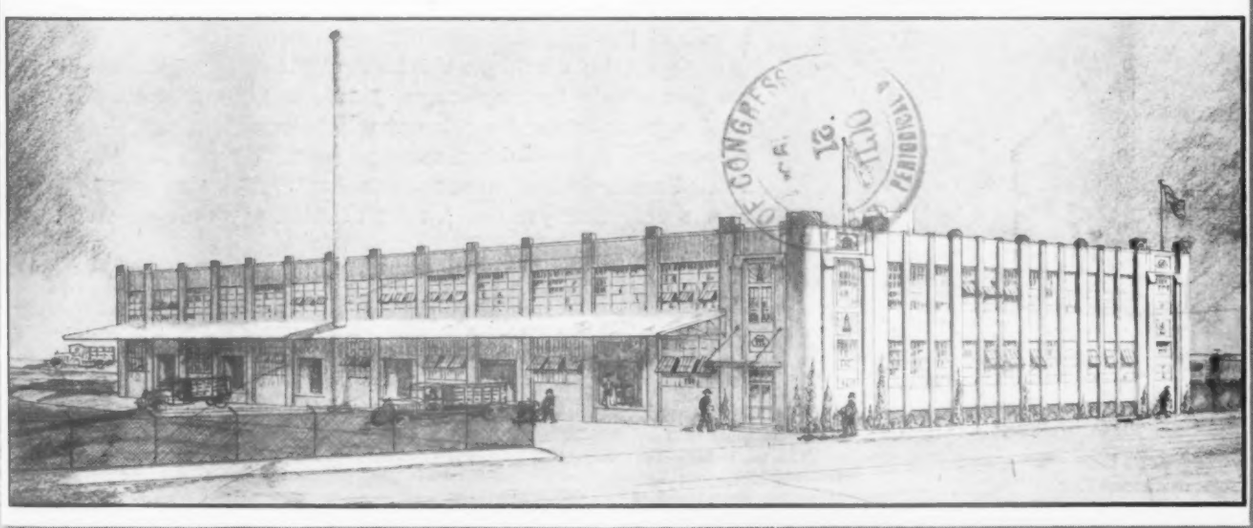
ROCK BITS
CORE BITS
TOOL JOINTS
VALVES

HUGHES TOOL COMPANY

Service Plants
Los Angeles
Oklahoma City
Midland

Main Office and Plant
HOUSTON
TEXAS

Export Office
Woolworth Bldg.
New York City



October 10, 1930

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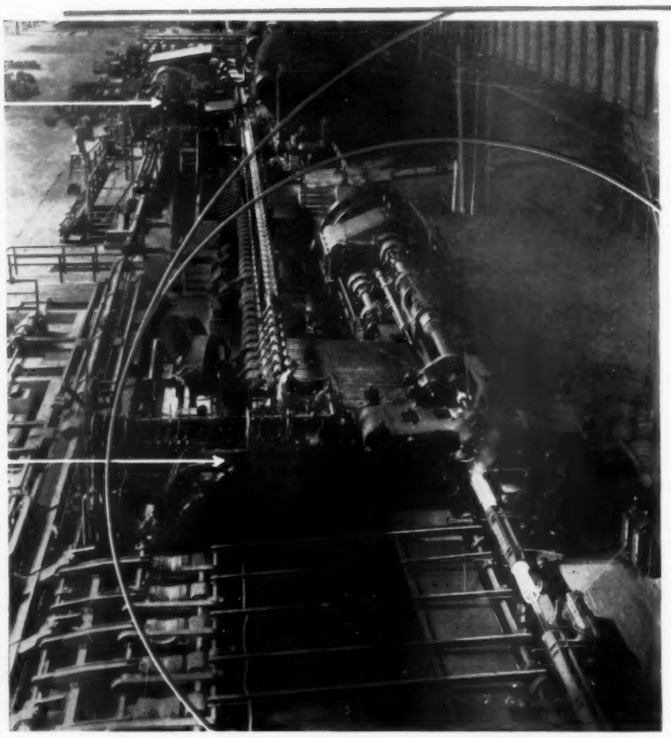
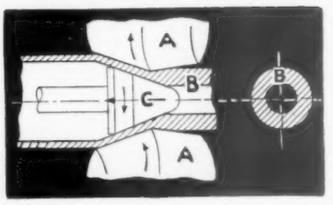
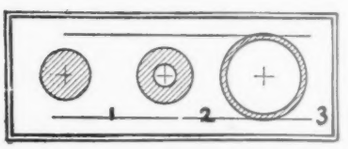
An Extra Step



Pictured are first and second piercers of the No. 2 J&L Seamless Mill at Aliquippa, Pa. All the heavy machinery circled in red is necessary to the second piercing.



Sketch showing, in cut-a-way form, the action of the second piercer in J & L Seamless Pipe manufacture. The rolls, "A" carry the tube, "B" over the second piercing, or expanding point, "C."



Development of cross-section in seamless tube manufacture: 1. Before piercing; 2. After first piercing; 3. After second piercing.

to Protect the Steel in J & L Seamless

IN producing all but the smallest sizes of seamless, J & L employs mill machinery that first pierces a small hole the length of the solid hot steel bar and then, in a second, or *extra operation,* enlarges this hole. By converting the solid bar into a tube by easy stages, J & L actually protects the steel against internal strains that, if permitted, would be detrimental to the finished seamless pipe. By this most advanced method of seamless manufacture, J & L also obtains, in the very first process, a tube of relatively uniform wall thickness.

JONES & LAUGHLIN STEEL CORPORATION

AMERICAN IRON AND STEEL WORKS

J&L STEEL

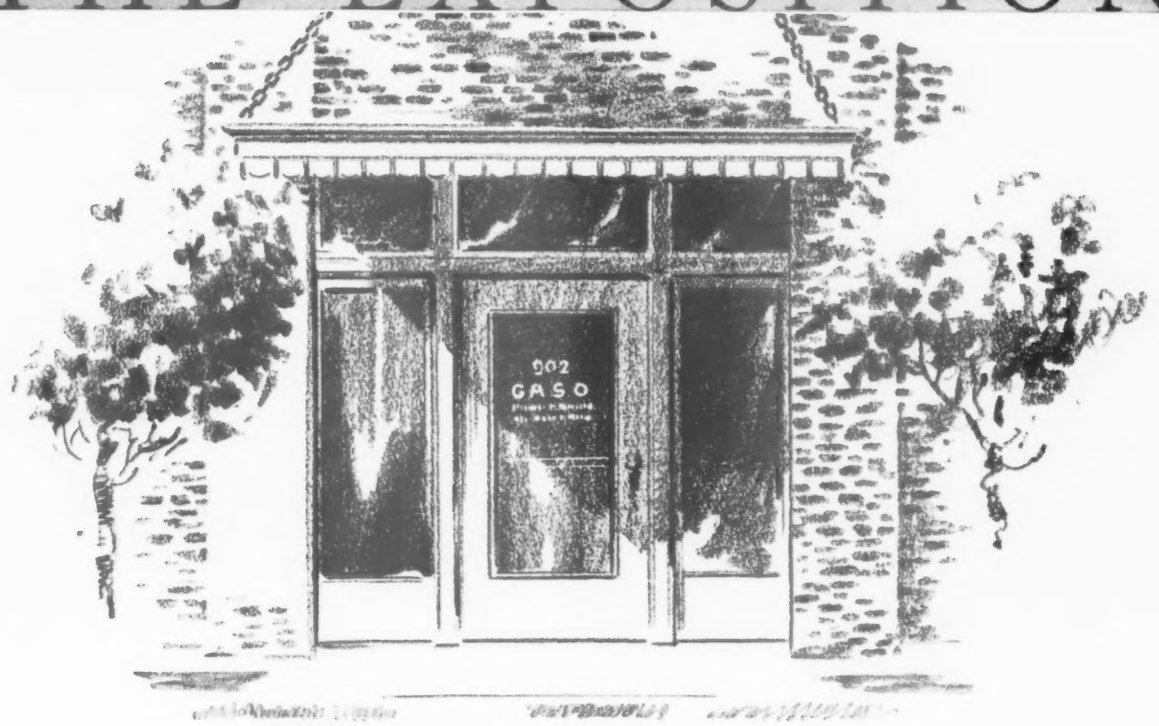
Manufacturers of Seamless and Welded Casing, Tubing, Drill Pipe and Line Pipe, and Welded Steam, Gas and Water Pipe in both Black and Galvanized.

Also makers of Bars, Shapes and Plates, Reinforcing Bars, Cold Finished Steel, Junior Beams, Steel Piling, Fabricated Structural Work, Steel Barges, Wire Products and Tin Mill Products.

JONES & LAUGHLIN BUILDING, PITTSBURGH, PENNSYLVANIA

The OIL WEEKLY. Issued weekly by the Gulf Publishing Co., 3301 Buffalo Drive, Houston, Texas. Subscription price $1.00 per year, 15 cents per copy. Entered as second-class mail matter December 23, 1916, at the post office at Houston, Texas, under act of March 3, 187

YOU ARE INVITED TO VISIT US DURING THE EXPOSITION

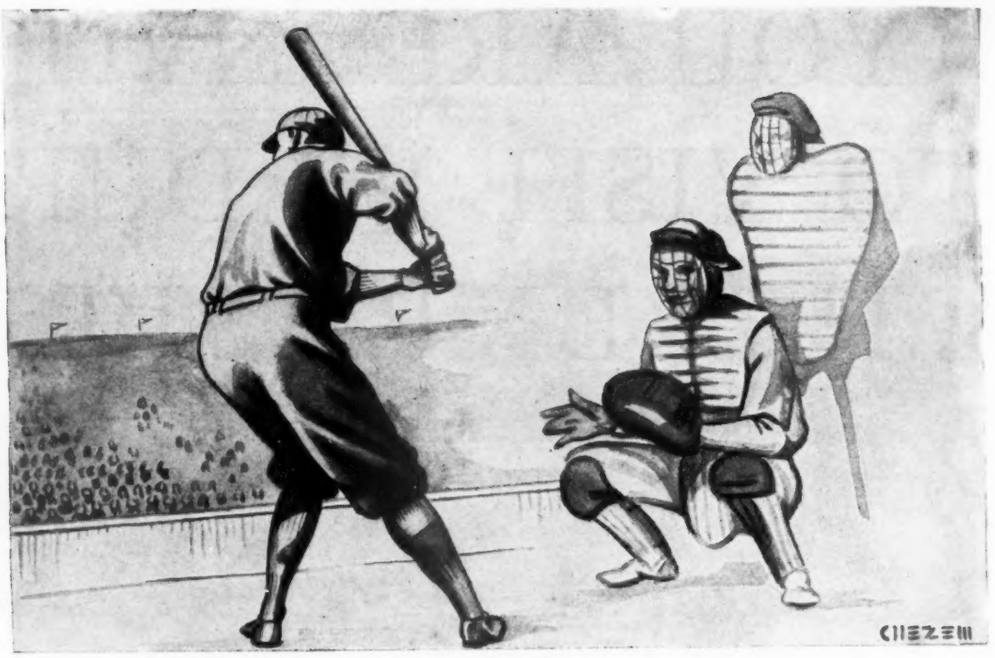


YOU will find a hearty welcome at Booth 64, Oklahoma Building . . . and we will be glad to have you enter our door at 902 East First St. and let us *show* you what we mean by "Gaso standards of construction."

GASO PUMP & BURNER MFG. CO.
902 East First Street Tulsa, Oklahoma

GASO PUMPS

FOR EVERY OIL INDUSTRY NEED



FOR PERFECT PERFORMANCE

The last half of the ninth—a man on second—two outs and one run needed to tie, two to win. It's at this critical point that the pinch hitter steps to bat. Nonchalant, easy confidence reflected in the grin and nod he gives his team mates and manager anxiously huddled in the dugout, he faces the pitcher. Mind and body concentrated for a quick, hard swing that seldom fails to slam the sphere out of sight. Deliberately he eyes each ball the pitcher throws. He lets two go by, one a strike, one a ball. Ah! Here comes what he's been looking for! Crack! There goes the ball high over the pursuing outfielder's head. It's a home run! The man on second comes home. The pinch hitter races around the bases, a wary eye on the mad scramble to recover the ball, and pounds across home plate a split second ahead of the thud of the ball in the catcher's mit. Two tallies! The game is won! Thrilled thousands roar their approval of a perfect performance.

Experienced oil field workers everywhere cheer the perfect performance of another type of pinch hitter, the American Inside Pipe Cutter.

If you've never used this pipe cutter, then you've got a thrill coming in the way this tool makes a home run for a cut. Mister, it's perfect!

INSIDE PIPE CUTTER

The American Inside Pipe Cutter should be run through your fishing string to the bottom for a cut. If a float joint is in the string, mill out the valve in the float, then make a cut at the bottom with inside cutter and try to pull the full string. If this is impossible a cut may be made further up and an effort made to pull the string from there.

Inside Pipe Cutters should be run on 2" tubing for 6⅝ O.D. We also cut casing of all sizes from 4" up.

You can order the American Inside Pipe Cutter for a cutting job through the Supply Companies. We furnish Cutter and Operator.

SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

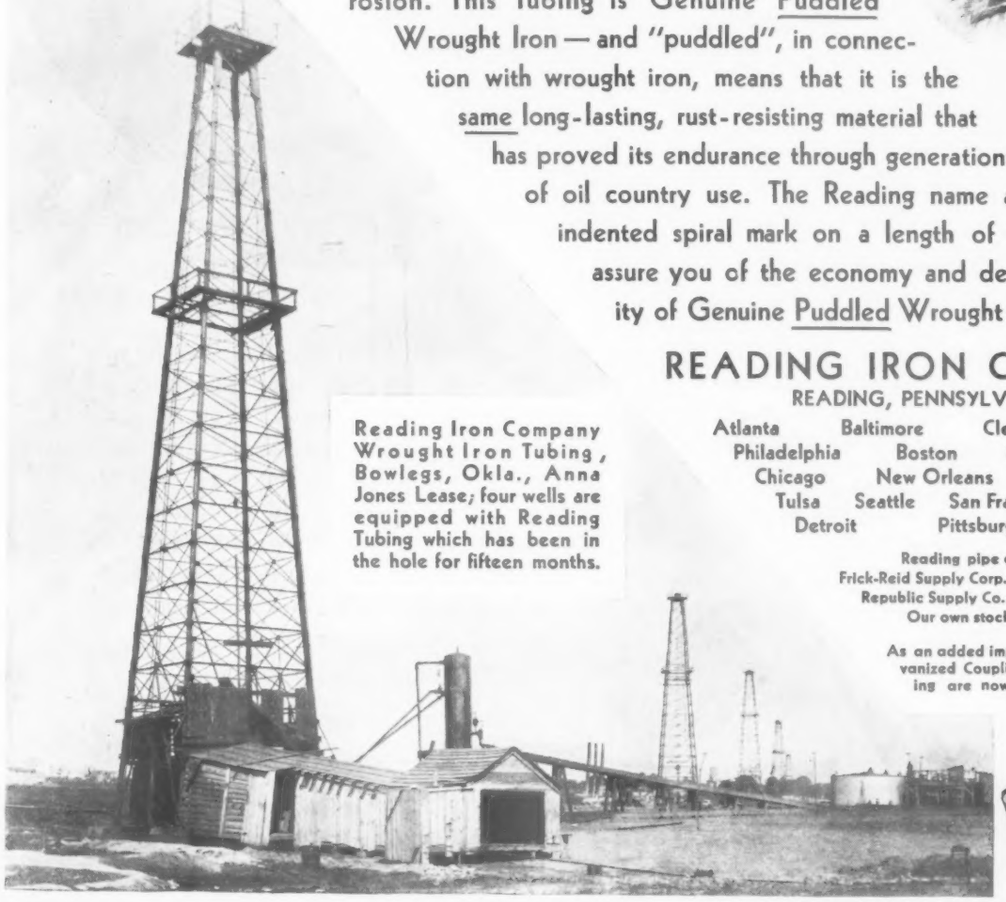
AMERICAN IRON & MACHINE WORKS CO.

Manufacturers of Oil Field Equipment

Unseen Hands Grip Coatings —and HOLD them

UNDER a microscope, you can see the slightly roughened surface that gives Reading 5-Point Tubing its bulldog grip on galvanizing. With thousands of unseen hands, this slight roughness clutches the coating—and HOLDS it! That is why there is so little flaking or peeling where Reading 5-Point Galvanized Tubing is used.

Under its coating, Reading 5-Point Galvanized Tubing is inherently resistant to corrosion. This Tubing is Genuine Puddled Wrought Iron—and "puddled", in connection with wrought iron, means that it is the same long-lasting, rust-resisting material that has proved its endurance through generations of oil country use. The Reading name and indented spiral mark on a length of tubing assure you of the economy and dependability of Genuine Puddled Wrought Iron.



Reading Iron Company Wrought Iron Tubing, Bowlegs, Okla., Anna Jones Lease; four wells are equipped with Reading Tubing which has been in the hole for fifteen months.

READING IRON COMPANY

READING, PENNSYLVANIA

Atlanta Baltimore Cleveland New York
Philadelphia Boston Cincinnati St. Louis
Chicago New Orleans Buffalo Houston
Tulsa Seattle San Francisco Los Angeles
Detroit Pittsburgh Kansas City

Reading pipe distributed by:
Frick-Reid Supply Corp. Bradford Supply Co.
Republic Supply Co. Superior Tube Co.
Our own stocks at Houston, Texas

As an added improvement, all Reading Galvanized Couplings for Reading 5-Point Tubing are now furnished with galvanized threads.

5 POINT PIPE READING GENUINE PUDDLED WROUGHT IRON

GENUINE PUDDLED WROUGHT IRON
READING PIPE
DIAMETERS RANGING FROM ⅛ TO 20 INCHES

Science and Invention Have Never Found a Satisfactory Substitute for Genuine Puddled Wrought Iron

The weakest spots in the Kelly become the *strongest*

with a

BAASH-ROSS DRILL STEM

(Patents Pending)

Upset on each end!

A great improvement in design to eliminate the ever-present danger of breaks below the top sub. Solid steel challenges fatigue and crystalizing vibration and makes the weakest spot in the Kelly the strongest. This latest BAASH-ROSS development has won the enthusiastic approval of major operators throughout the nation.

Left hand tool joint box UP....right hand tool joint pin DOWN

There are manifold advantages to the new BAASH-ROSS Drill Stem with Upset Boxes and pins. Top Upset prevents breakage below top sub so common in small sized Kellys. Lower Upset does away with extra bottom sub and thereby eliminates one tool joint and the possible trouble which comes from added connections. Bottom Upset further removes Kelly leaks. Length of each Upset is sufficiently long to stand four to five cuttings.

Complete specifications and information regarding the BAASH-ROSS DRILL STEM *with Upset boxes at each end will be promptly mailed on request.*

Box 1297 Arcade Station, Los Angeles, Calif.

Please send me more information regarding the BAASH-ROSS Drill Stem with Upset Boxes and Pins.

*Name*_____

*Company*_____

*Address*_____

Oil Weekly, Oct. 10, 1930.

BAASH-ROSS TOOL COMPANY

5512 BOYLE AVENUE, LOS ANGELES, CALIF.

Export Department . . . New York . . . 30 Church Street
District Offices . . Houston, Texas . . 1816 Nance Street
Oklahoma City . . . . . 1559 East G Street, Capitol Hill

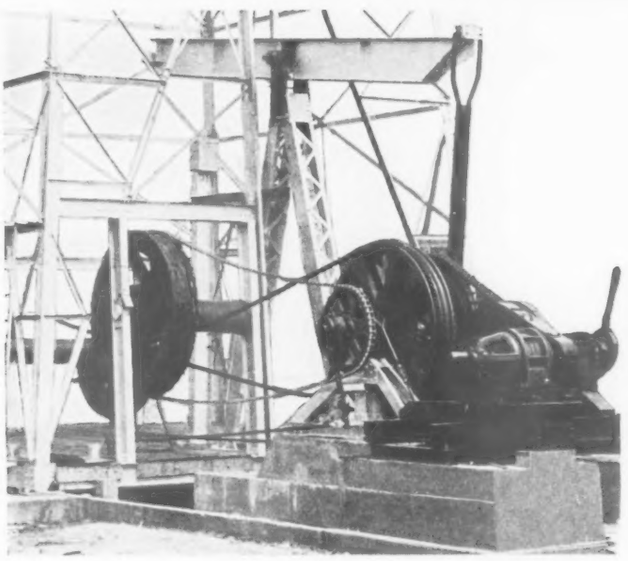
24-hour field shop and supply service at . . . LONG BEACH . . . . BREA
VENTURA . . . . . TAFT . . . . . OKLAHOMA CITY

QUALITY

From DERRICKS *To* TANKS

SERVICE IN EVERY FIELD

Booths 74 and 75
Texas Building



Parkersburg Chain-Driven Rig Front

The Last Word in a Compact Operating Unit for Oil Wells
All Steel--All Parkersburg

Ask the Nearest Parkersburg Man

THE PARKERSBURG RIG AND REEL COMPANY

Main Offices and Works
PARKERSBURG, WEST VIRGINIA
NEW YORK - TULSA - FT. WORTH - HOUSTON
Branches In All Active Fields

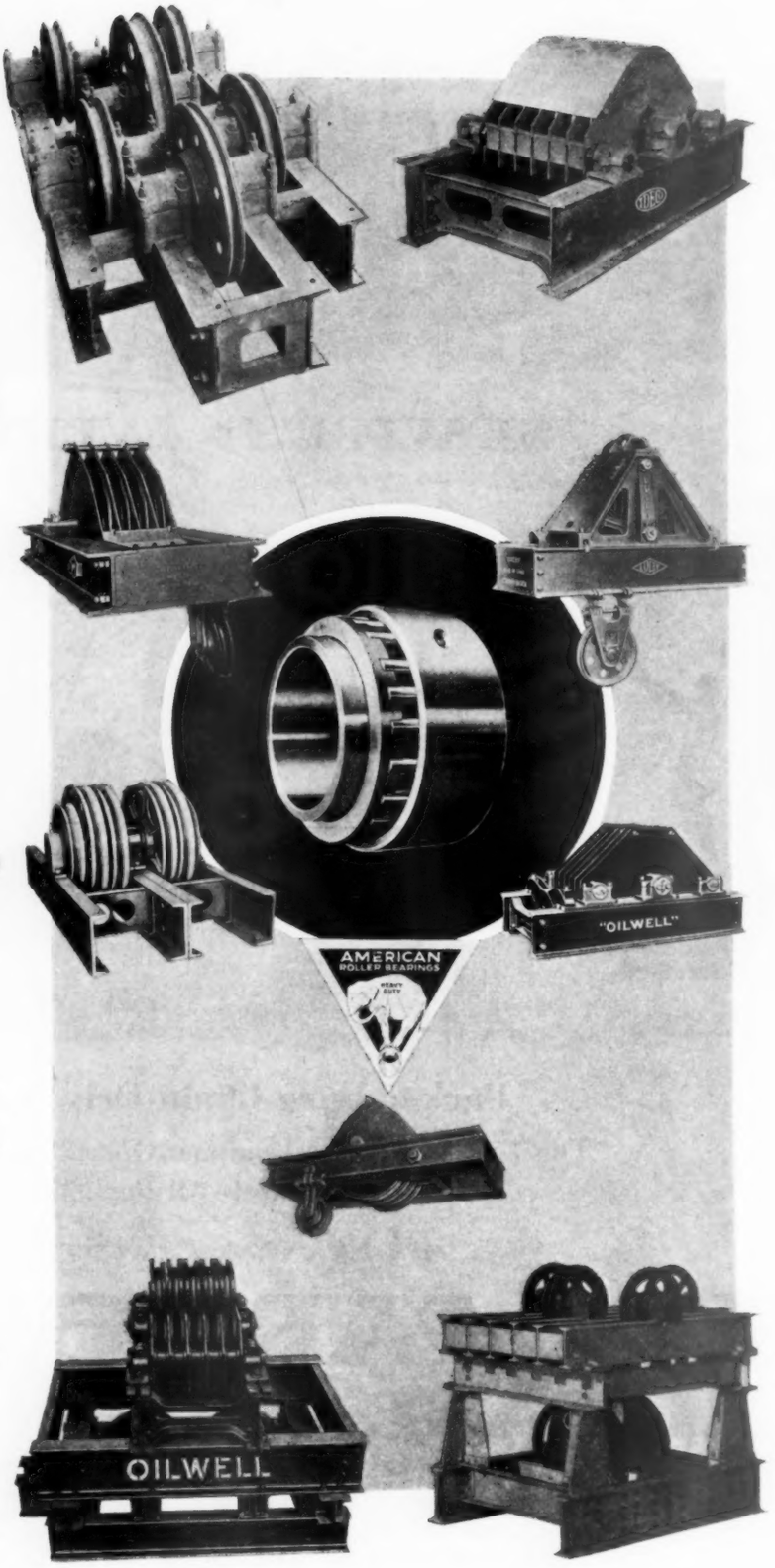
c d-A

Find an improved Crown Block

which is <u>not</u> equipped with

AMERICAN HEAVY DUTY ROLLER BEARINGS

if you can!



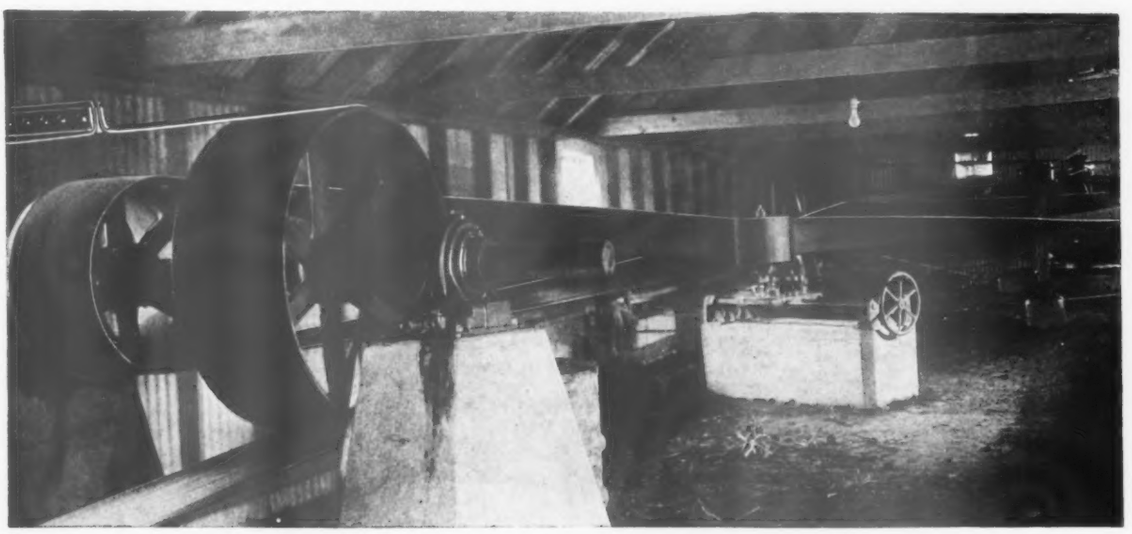
FOR the history of the development of roller bearings in heavy duty oil country equipment, write

AMERICAN
ROLLER BEARING CO.
Pittsburgh, Penna.

Pacific Coast Representatives:
Frank M. Cobbledick Co.,
1031 Polk St., San Francisco

Edward D. Maltby Co.,
321 W. Pico St., Los Angeles

PENNTEX BELTING



At the right is shown a 24-foot band wheel power equipped with PENNTEX BELTING, with 20-inch pulley on the clutch, 30-inch pulley on the jack shaft, and 20-inch pulley on jack shaft to band wheel. PENNTEX DOUBLE, 12-inch, is used on both drives.

For heavy pumping and drilling, where an ordinary belt is short-lived, PENNTEX offers dependable and economical service. It has the advantages of heavy weight (without increased thickness or loss of flexibility), and can be used safely with more slack than other belts.

Penntex completely eliminates bootlegging (ply separation), and surface cross-cracking, because it is solid interwoven without a binder warp. Being thoroughly impregnated and water-proofed, it will give satisfactory service under all conditions of temperature or dampness.

PENNTEX is the strongest belt made. PENNTEX DOUBLE tests over 3,000 pounds per inch width; TRIPLE, over 3,500.

And the first cost is well in line with what you would pay for an ordinary belt.

Made in three weights and a wide range of sizes. Let us quote on your next requirements. Meanwhile we will send, on request, a circular which completely describes this super-belt.

Victor Balata & Textile Belting Co.

New York Office and Warehouse
38 Murray Street
Chicago Office and Warehouse
345 W. Austin Avenue
Factories: Easton, Pennsylvania

FIELD REPRESENTATIVES
TULSA—F. C. Morris, Post Office Box 1777
ELDORADO, KANS.—A. P. Lacey, 418 W. Locust St. (Telephone 911)
SAN ANTONIO—J. Backus, 839 W. Craig Street

Automatic prevention of Evaporation and Fire for pipe line tanks

AUTOMATIC control of pipe line stations may be a possibility of the near future.

Automatic prevention of evaporation and fire on checking and terminal tanks, however, is an accomplished fact by means of Wiggins Floating Roofs. Many important pipe lines are completely equipped with Wiggins Roofs.

Money- and labor-saving advantages of Wiggins Roofs are:

—elimination of pumping losses. These roofs ride on the oil, effectively blanketing the surface at all levels.

—breathing losses are stopped. There is no space in tank to expand and force vapor out of tank.

—fire hazard is eliminated. Years of service under varying conditions have proved the ability of Wiggins Roofs to prevent fire, whether by lightning or exposure.

—no accessory equipment or extra attention required, for either fire or evaporation protection. The tank requires only the same care as any ordinary tank.

Stopping pumping and breathing losses means that the Wiggins Roofs repay their cost in a few months. Address our nearest office for full information and estimates on Wiggins Roofs, tanks, and other oil field platework.

CHICAGO BRIDGE & IRON WORKS

Dallas . . . . . 3338 Magnolia Bldg.
Houston . . . . . 1120 Electric Bldg.
Tulsa . . . . . 2405 Exchange Bank Bldg.
Birmingham . . . . . 1538 Fiftieth St., N.
Atlanta . . . . . 2155 Rhodes-Haverty Bldg.
Chicago . . . . . 2142 Old Colony Bldg.
Detroit . . . . . 1515 Lafayette Bldg.

Two tanks equipped with Wiggins Floating Roofs at Drumright, Oklahoma station of the Prairie Pipe Line Company

Cleveland . . . . . 2241 Midland Bank Bldg.
New York . . . . 3144 Hudson Terminal Bldg.
Philadelphia . . . . . 1613 Jefferson Bldg.
Boston . . . . . 1518 Consolidated Gas Bldg.
San Francisco . . . . . 1050 Rialto Bldg.
Seattle . . . . . 4322 Smith Tower
Havana, Cuba . . . . . Apartado 2507

WIGGINS ROOFS

OW 10-10 Gray

TRADITION

"LET me read you this sentence from our field man's letter:

'There are lots of arc welders on the market but for pipe line work we've just got to have welders that deliver an even flow of current and that are rugged enough to stand the rough treatment we give them on pipe line jobs . . . That in a word is our requirement.'"

PROGRESS

"Then why doesn't he confine himself to the one word . . . 'STABLE-ARC'?"

I'll just write him back and say: 'What you want is what most operators prefer . . . the Lincoln "Stable-Arc."

'With it you'll produce more and better welds due to the STABILITY of its arc.

'You'll be interested to know that the MAJORITY of arc-welded pipe lines have been welded by Lincoln "Stable-Arcs", and here's why:

'Due to their automatic idling device, an exclusive Lincoln feature, 25% saving in fuel consumption is secured.

'As to ruggedness, it has all welded steel frame, welded steel canopy, welded steel removable side and end panels to protect it against the weather and the meddler . . . both of which are with us always'."

THE LINCOLN ELECTRIC COMPANY

Department No. 33-10 **Cleveland, Ohio**

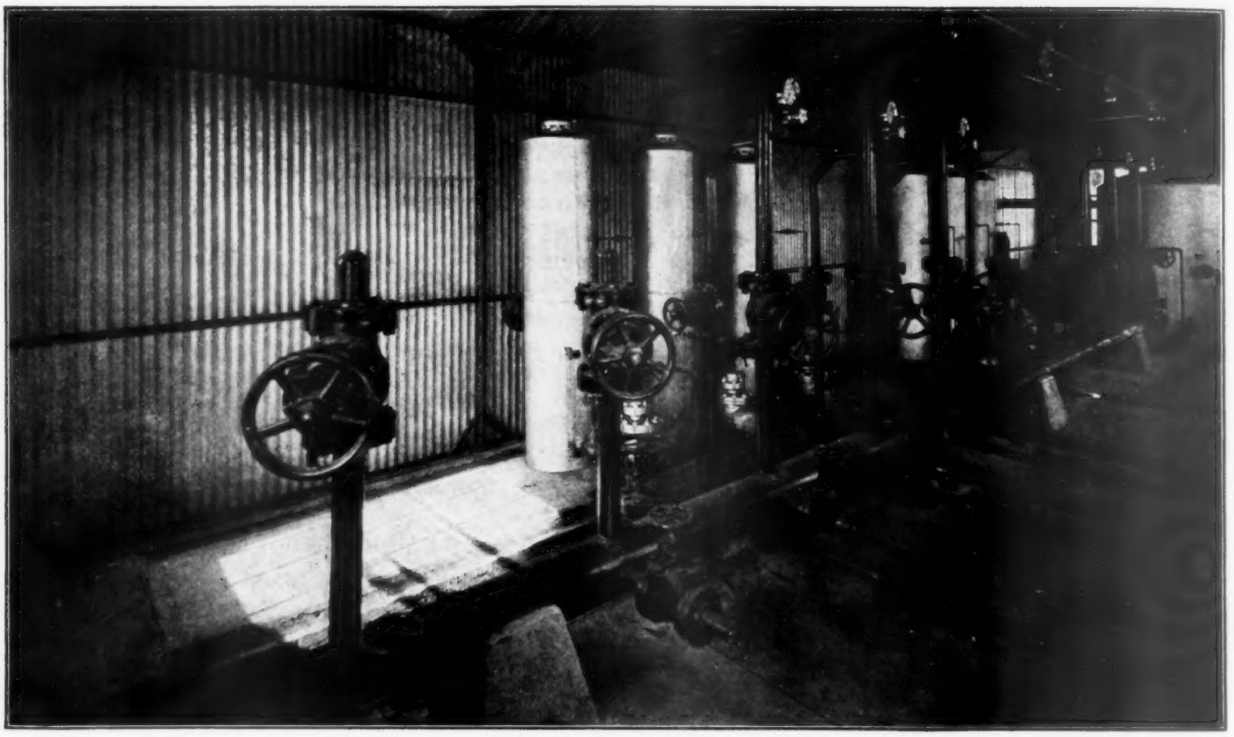
World's Largest Manufacturers of Arc Welding Equipment

W-163

Illustrated at right is a Lincoln "Stable-Arc" welder, gasoline engine driven type, having a 300 ampere N. E. M. A. rating with current range of 90 to 375 amperes. This type of welder has supplied the welding current for the majority of arc-welded pipe lines.

LINCOLN "Stable-Arc" WELDER

Lincoln "Stable-Arc" welders gasoline engine driven type are fully protected from weather by welded steel canopy and removable steel side and end panels.



DARLING VALVES on Airlift Service in Indian Territory Illuminating Oil Company

ANOTHER example of where Darling Valves are giving the highly efficient service for which they are noted! This time it's on airlift service, 800 lbs. working pressure.

Darling Gate Valves are made for all branches of the oil and gas industry—well control, pipe lines, stations and refineries. Full particulars on request.

DARLING VALVE & MANUFACTURING CO.
Williamsport, Pa.

NEW YORK LOS ANGELES OKLAHOMA CITY HOUSTON

Mid-Continent Distributors:
Frick-Reid Supply Corp. International Supply Co.

Foreign Sales Manager:
H. M. HEIN
Room 1405, 152 West 42nd Street,
New York, N. Y.

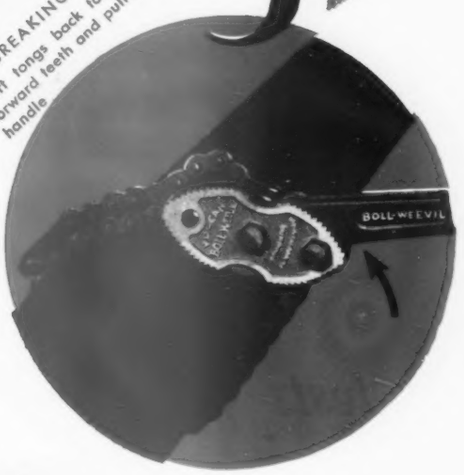
DARLING
GATE VALVES

Just Simple that with

1 ✓ NO HOLDING UP
To apply, lay tongs on top of pipe and hook chain around it

2 ✓ "MAKING UP"
Slide tongs forward to engage rearward teeth and push down on handle

3 ✓ "BREAKING OUT"
Shift tongs back to engage forward teeth and pull up on handle

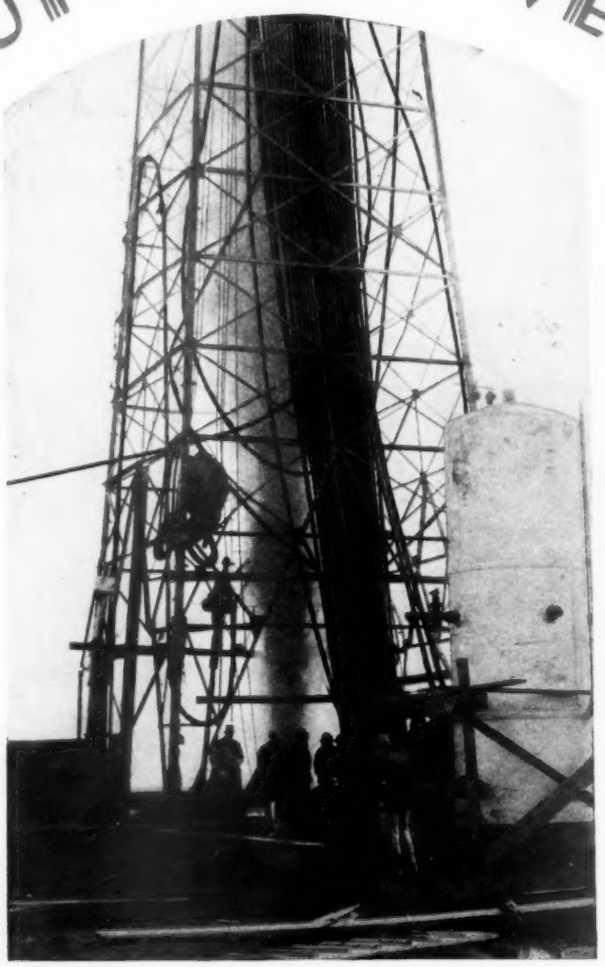


WILLIAMS
SUPERIOR DROP-FORGED TOOLS
VULCAN
BOLL-WEEVIL
CHAIN PIPE TONGS

VULCAN BOLL-WEEVIL is self-releasing.

J. H. WILLIAMS & CO. — *"The Wrench People"* — NEW YORK — BUFFALO — CHICAGO

DRIVEN OUT OF THE WELL



and twisted around inside the derrick — but not a break in pipe or joint

STANDARD SEAMLESS DRILL PIPE *stands the severest tests pipe has been called on to stand ...*

The tremendous force of the oil and gas from the Mary Sudik Well—I. T. I. O. Company—Oklahoma City—drove the drill pipe *out of the well*—wrapped it around the inside of the derrick *but the pipe held securely—not a break anywhere,—in pipe or coupling.*

For pipe and casing that stands up under ordinary or extraordinary conditions specify "Standard Seamless" or "Spang Welded"

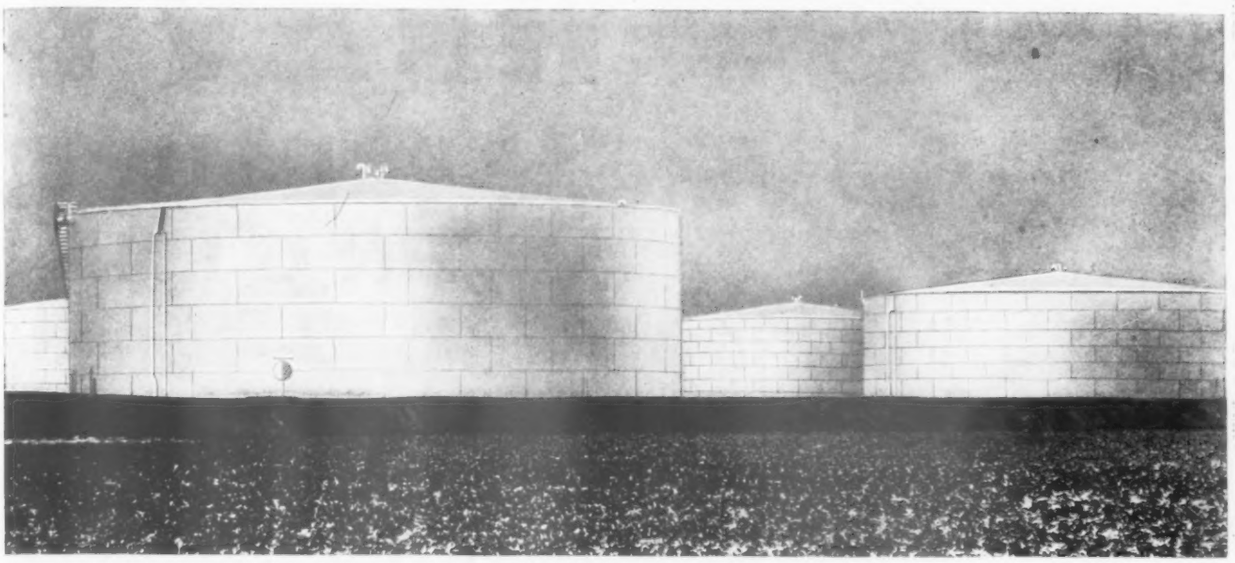
SPANG, CHALFANT & CO., INC.

General Offices: CLARK BUILDING, PITTSBURGH, PA.

Sales Offices: NEW YORK, BOSTON, PITTSBURGH, CHICAGO, ST. LOUIS, TULSA, LOS ANGELES, DALLAS, BIRMINGHAM

Welded Mills: ETNA, PA., SHARPSBURG, PENNA. *Seamless Mills:* AMBRIDGE, PENNA.

ALUMINUM PAINT—THE COAT OF METAL PROTECTION



Aluminum Paint made of Alcoa Albron Powder lasts longer

Aluminum paint made of Alcoa Albron Powder lasts many "extra" months on oil tanks—on tank cars—on bulk plant buildings—on filling station sheds and equipment.

This paint has a longer useful life because its pigment differs from that of ordinary paints. Minute, thin, flat flakes of pure Alcoa Aluminum compose the pigment. Brushed or sprayed on, these flakes "leaf" to form a *coat of metal protection*. Retarding moisture penetration, this coating checks the formation of rust. It is even resistant to hydrogen sulphide fumes.

Aluminum paint, with its bright, silvery surface, dresses up filling stations. It reflects the sun's heat from tanks and tank cars, and thus reduces oil evaporation losses and saves barrels of oil. It requires less frequent renewals than ordinary paint and protects structures better. In short, it is the finest all around paint for use by all oil companies.

Aluminum Company of America does not sell paint. But aluminum paint made with satisfactory vehicles and Alcoa Albron Powder may be purchased from most reputable paint manufacturers, jobbers and dealers. Be sure the pigment portion is Alcoa Albron and is so designated.

Let us send you a copy of the booklet, "Aluminum Paint, the Coat of Metal Protection". Address ALUMINUM COMPANY *of* AMERICA; 2419 Oliver Building, PITTSBURGH, PENNSYLVANIA.

ALCOA ALBRON
POWDER FOR
ALUMINUM PAINT

HEAVY DRILLING ENGINE

BUILT FOR

350 LBS.

CONSTANT

STEAM PRESSURE

EXTRA HEAVY CRANK SHAFT

EASILY REVERSED

LARGE ROLLER MAIN BEARINGS

LARGE ROLLER CRANK PIN BEARINGS

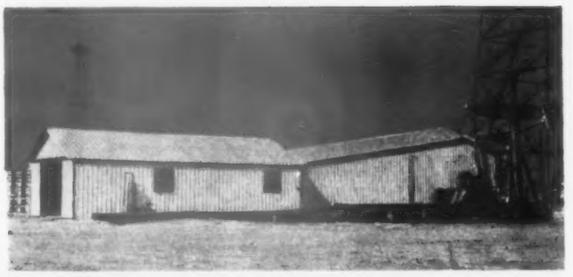
GARDNER-DENVER COMPANY
QUINCY, ILLINOIS
Oil Field Offices in all Principal Cities

1483

GARDNER-DENVER

MADE ENTIRELY OF STEEL

BUTLER



READY-MADE STEEL BUILDINGS

SAVE

FOR ALL BRANCHES OF THE OIL INDUSTRY

THERE is a distinct saving in their first cost. Complete materials, in Ready-made units, make possible quick and economical installations in the oil field, at the refinery, pipe line, bulk station, or service station site. Made entirely of steel—further savings are assured through low maintenance and small depreciation. Their fire-safe qualities offset the lack of full fire protection at remote locations.

Enlargement at any time is only a matter of joining on additional standardized units. The same features which make possible quick and simple erection facilitate taking down and re-erection with full salvage. Attractive and comfortable interiors for service stations or oil field living quarters are obtained by insulation.

The structural strength of steel, multiplied by Butler methods of shaping, gives to Ready-made Steel Buildings characteristics of permanence which save you all thought of re-building for many years to come.

STEEL BUTLER PRODUCTS

BUTLER MANUFACTURING COMPANY

1246 Eastern Ave.
KANSAS CITY
MO.

946 Sixth Ave. S.E.
MINNEAPOLIS
MINN.

A new book, picturing installations of many types of Butler Ready-made Steel Buildings awaits the request of interested oil company officials.

Butler Ready-made Steel Oil Field and Refinery Buildings are sold and installed by the extensive Butler Oil Field Service Organization. Represented in all foreign fields, except Argentina, by the PITTSBURGH UNITED CORPORATION (formerly Oil Well Supply Company) NEW YORK CITY, N. Y. Represented in Argentina by the NATIONAL SUPPLY COMPANY, NEW YORK CITY, N.Y.

What "Black Beauty" Protection really means

Top—Collapsed Benicia wharf. Below—Limnoria in untreated timber. All photographs through courtesy of the San Francisco Bay Piling Committee.

Insurance For All Your Timber

ON October 7, 1920, the municipal wharf at Benicia, California, suddenly collapsed. Examination disclosed that the untreated piling upon which it had been erected had been undermined by marine borers. Once again the folly of using untreated timber was dramatically illustrated.

The same danger threatens the timber you use in salt-water locations. The teredo, illustrated to the right, swarms in such places. But the teredo is only one of the many destructive marine borers that lurk in salt-water locations.

The danger also exists on land. Termites and fungi can destroy untreated timber almost as quickly as the teredo. Experts say there is one sure way to secure protection—by using creosoted timber.

"Black Beauty" products offer you such protection. Made from selected timber, they are deeply impregnated with toxic creosote oil. They defeat every enemy of untreated timber, eliminating expensive replacements and repairs. "Black Beauty" products are timber insurance. The small additional purchase price will pay you big dividends in the end.

"BLACK BEAUTY" *Products*

TEXAS CREOSOTING COMPANY

ORANGE, TEXAS HOUSTON, TEXAS

IN EVERY COUNTRY WHERE PIPE IS USED

THEY WILL ALL TELL YOU

YOUNGSTOWN PIPE IS GOOD PIPE

"If Continental Sells It....There Is No Better" 755J

THE CONTINENTAL SUPPLY COMPANY

General Offices: ST. LOUIS

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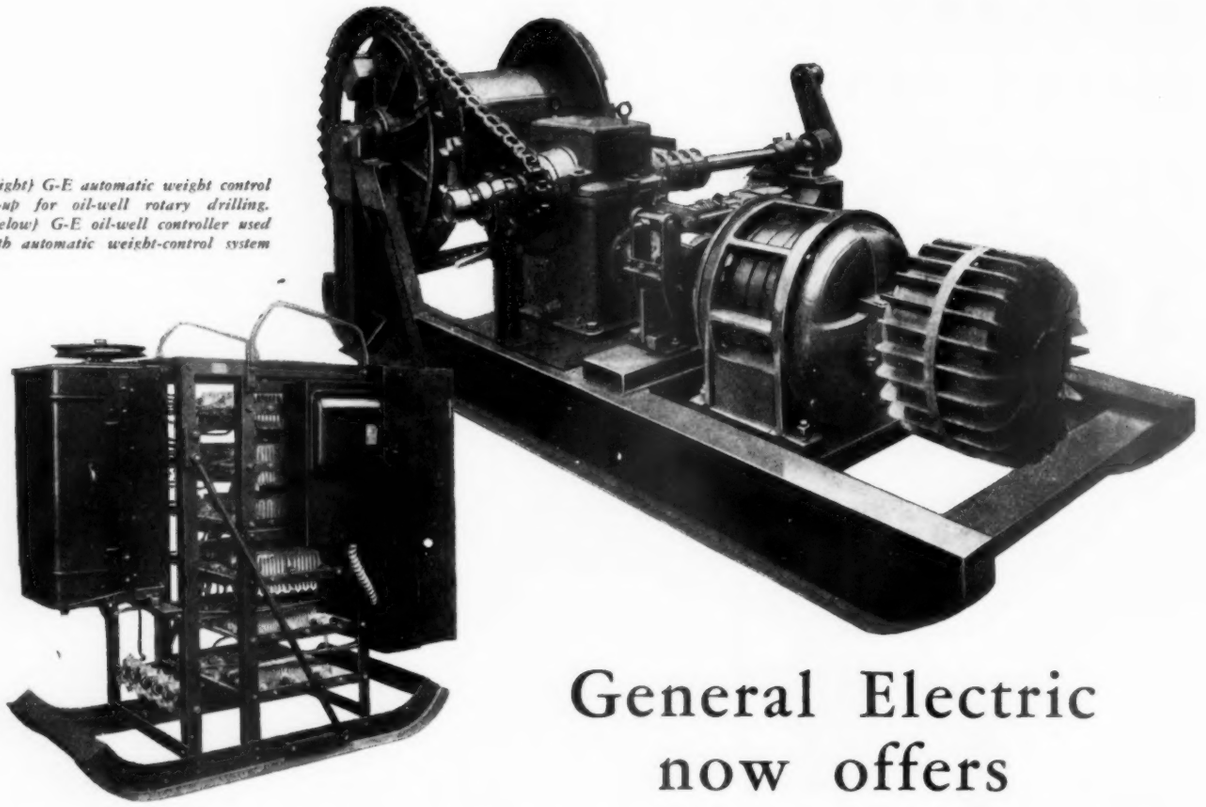
London Offices: 316-17 Dashwood House, Old Broad St., E. C. 2

CONTINENTAL EMSCO S. A. R., 7, Strada Eminescou, Ploesti, Romania

CONTINENTAL



(Right) G-E automatic weight control set-up for oil-well rotary drilling. (Below) G-E oil-well controller used with automatic weight-control system

General Electric now offers

POSITIVE WEIGHT CONTROL AUTOMATIC FEED

THE new G-E automatic weight control for rotary drilling, backed by the reputation of General Electric for service and dependability, has these unprecedented features:

1. Feed is from dead end of line; calf-wheel and entire "standard end" are replaced by a two-speed, motor-driven hoist unit.

2. Feeding and retrieving action is automatically responsive to weight carried on bit and holds constant within close limits any weight set by driller, observed as usual on weight indicator.

3. By simple electric control, bit may be instantly raised off bottom at will of operator, or equipment changed to full hand control for coming out of hole in case of emergencies, thus serving as a reliable, "live" standby for the drawworks.

4. The unit serves as an auxiliary hoist for rigging-up, saving enough time and effort on this work alone to pay for itself in a short time.

5. A crank is provided for making up joints when setting casing, drum being unclutched and locked.

This equipment eliminates the uncertain human element from drilling, and provides conditions now generally recognized by experts in the industry as essential for drilling straight holes. Any G-E office will gladly supply details.

JOIN US IN THE GENERAL ELECTRIC PROGRAM, BROADCAST EVERY SATURDAY EVENING ON A NATION-WIDE N.B.C. NETWORK

200-395

GENERAL ELECTRIC

SALES AND ENGINEERING SERVICE IN PRINCIPAL CITIES

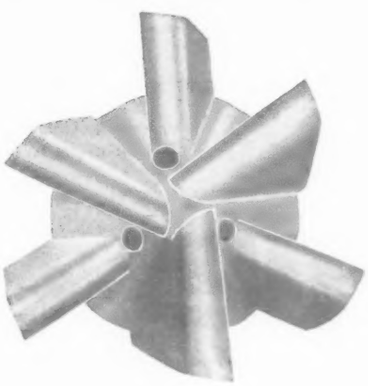
Better Tools Cost Less to Operate

The most desirable drilling and coring tools for *modern* operators.

Manufactured by a *modern* company.

Hard Formation 6 Blade Drill Bit

Perfection Core Barrel



End View

Write for full details

The Brewster COMPANY~INC.
Shreveport,Louisiana

STRUCTURAL ECONOMIES of Naylor *SPIRALWELD* Toncan Iron Pipe

Naylor Pipe has definite economic values not found in other pipe

CROSS SECTION BEFORE WELDING

The lock-seam takes the load, thereby relieving the weld of any stress, the weld being only a seal.

CROSS SECTION AFTER WELDING

The "Heel" which, in spiral form, extending for the entire length of the pipe, is responsible for the flexibility of Naylor Pipe. This flexibility provides for expansion and contraction, shock fluid load and vibration which are destructive to a weld on a rigid structure.

First—Naylor Pipe weighs one-half as much as standard weight pipe, but possesses unusual strength provided by the *spiral-welded* lock-seam. Every length of Naylor Pipe is mill tested to the following pressures:

Diameter of Pipe	Mill Test Lbs. Per Square Inch	Diameter of Pipe	Mill Test Lbs. Per Square Inch
6″	900	14″ O. D.	450
8″	800	16″ O. D.	400
10″	700	18″ O. D.	350
12″	500	20″ O. D.	325

Second—the structure of Naylor Pipe is unique in that the *spiral-welded* lock-seam provides a continuous expansion joint. This is due to the fact that the heel of the lock is able to move minutely, thus shortening and lengthening the pipe when strains are put on the line due to temperature changes.

Another feature of the Naylor structure which should not be overlooked is its ability to *withstand shock fluid* loads, this feature resulting from the cushioning effect incorporated in the *spiral-welded* lock-seam.

No other line-pipe has been designed that incorporates all the economic savings of maximum structural strength and an iron alloy for long life.

[Catalog 30-2 gives more complete engineering and metallurgical data]

NAYLOR PIPE COMPANY, Main Office & Plant, 1230 E. 92nd St., CHICAGO

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TONCAN COPPER

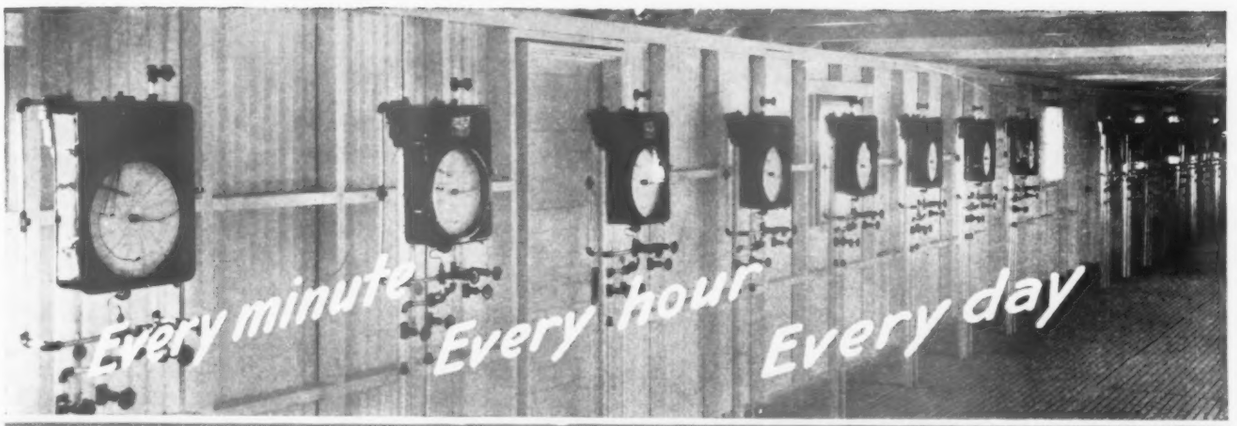
Naylor Pipe

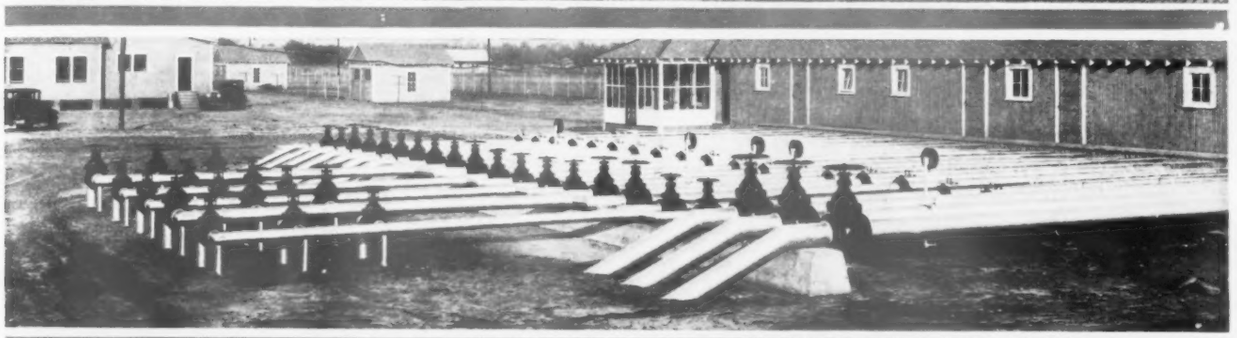
Maximum Structural Strength — Mo-lyb-den-um IRON — With Minimum Weight

Standardized Naylor Pipe is made in sizes 6″ to 12″ I. D. and 14″ to 20″ O. D. in any uniform length desired up to 40′0″. Ends made to wrought pipe standards for all types of coupling.

Toncan Copper Molybdenum Iron possesses a superior corrosion resistance, making it the favored pipe material.

Where corrosion is not a problem, Naylor Pipe can be furnished in steel.





Accuracy for every line

Up-to-date in construction, in precision of operation, and in its provision for ample capacity is the installation of Westcott Orifice Meters photographed at the Munce Metering Station of the Arkansas Natural Gas Corporation. This super-station for the accurate registration of large volume gas flow is in charge of Mr. W. R. McLaughlin. It provides for a capacity of 250 million cubic feet daily at 250 lbs. pressure, which is far greater than the maximum demand of a few years ago. Nevertheless, Westcott Orifice Meters are used because their performance continues to merit confidence in the face of greater demands. Since the Westcott meter was first introduced in 1913 as the pioneer orifice type gas meter of the world, its reliability and accuracy have kept pace with requirements. Painstaking and continuous research has developed the orifice principle of measurement in the Westcott meter to its present high mark of refinement.

Reliability and accuracy—all the time, for high or low pressure, for large or small volume lines: that is what measurement engineers expect of Westcott Orifice Meters—and get.

METRIC METAL WORKS
ERIE, PENNSYLVANIA
IRONCASE, TONNED STEEL CASE and ORIFICE METERS

AMERICAN METER COMPANY
INCORPORATED
The World's Largest Manufacturers of Gas Meters and Allied Apparatus
ESTABLISHED 1836

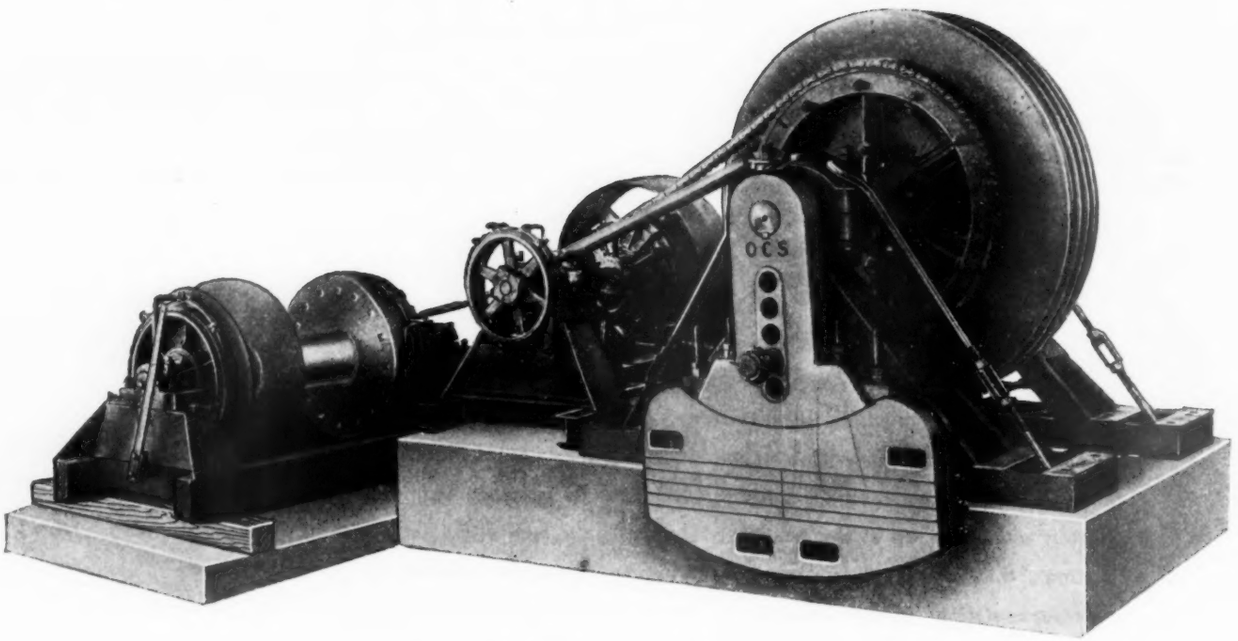
SALES and SERVICE — ERIE · PITTSBURGH · CHICAGO · DALLAS · TULSA · DENVER · PHILADELPHIA · LOS ANGELES · NEW YORK · SAN FRANCISCO · BALTIMORE · KANSAS CITY · BOSTON · ALBANY

Most of the more important orifice meter installations of 1929 were Westcott Orifice Meter installations. You can appreciate the reasons by reviewing the basic data contained in Bulletin E-2.

OCS

Universal Rig Fronts

Any Engine **Any Motor**



for Drilling or Pumping

The Deepest Wells in the World

Manufactured by

THE OIL COUNTRY SPECIALTIES MFG. CO.

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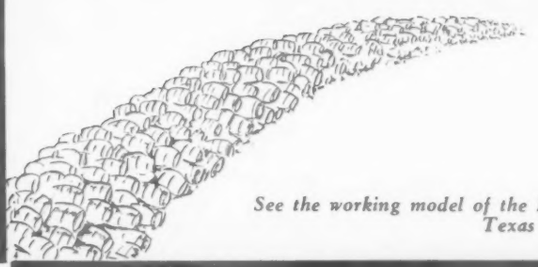
720 BARRELS IN TWENTY MINUTES



See the working model of the New Smith in booths 90 and 121, Texas Building

80 MILLION CUBIC FEET OF GAS >> >> AND NOT A DROP OF OIL ESCAPED THESE NEW SMITH SEPARATORS

Photo at the right shows well coming in; photo below taken 20 minutes later. What a difference when production is handled with a New Smith Separator.

Recently, on the Reynolds-Unruh No. 1, in the Oklahoma City Field, the New Smith handled 900 barrels of oil an hour and 80 million cubic feet of gas per day without spraying one drop of oil. During the first twenty minutes after this well had come in, the New Smith handled 720 barrels of oil and a little better than 80 million cubic feet of gas per day . . . also without spraying a drop of oil!

The Houtex Production Company's Deering-Wilhite No. 1, which came in a short time ago with a gravity of 41½, has installed a New Smith and the gravity has been boosted to 42½, the price per barrel being increased, therefore, from $1.45 to $1.50.

It is just such performances as these that are building an even wider acceptance of the New Smith. Its consistent ability to produce clean gas . . . much drier than has ever yet been obtained . . . is without parallel in the industry. There are scores of installations where ONE NEW SMITH is doing the work of two separators. Such convincing records are fast causing more and more operators to specify the New Smith on all their leases. A letter, wire, or phone call will bring a Smith representative to your office.

SMITH SEPARATOR COMPANY

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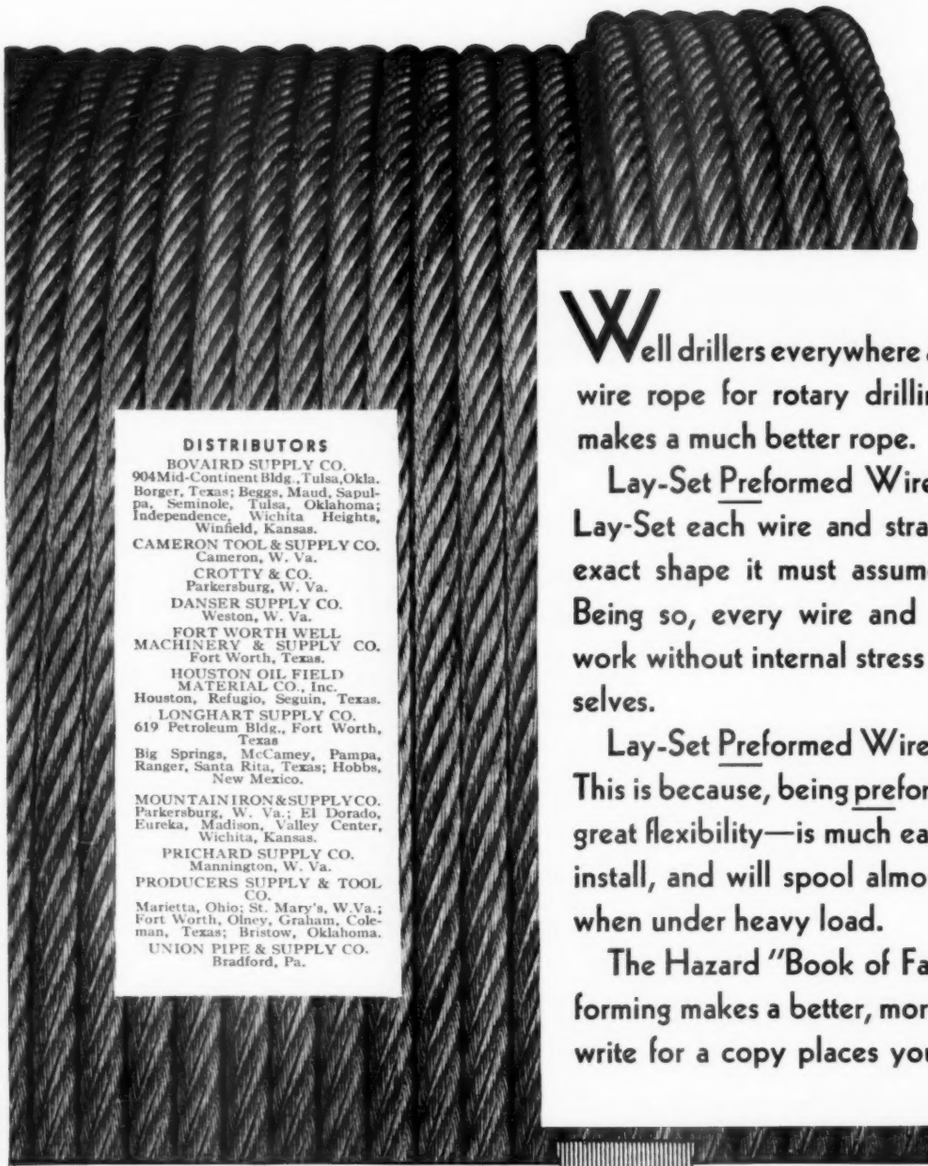
Export Office—OIL FIELD EQUIPMENT CO., 30 Church St., New York

IF IT'S WORTH DRILLING FOR IT'S WORTH SAVING

HAZARD PREFORMED LAY-SET WIRE ROPE

WEARS LONGER
SPOOLS PERFECTLY



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UNION PIPE & SUPPLY CO.
Bradford, Pa.

Well drillers everywhere are turning to preformed wire rope for rotary drilling because preforming makes a much better rope.

Lay-Set Preformed Wire Rope *wears longer.* In Lay-Set each wire and strand is preformed to the exact shape it must assume in the finished rope. Being so, every wire and strand is free to do its work without internal stress or friction among themselves.

Lay-Set Preformed Wire Rope *spools perfectly.* This is because, being preformed, Lay-Set possesses great flexibility—is much easier to handle, faster to install, and will spool almost as tight when idle as when under heavy load.

The Hazard "Book of Facts" explains *why* preforming makes a better, more economical, rope. To write for a copy places you under no obligation.

HAZARD WIRE ROPE COMPANY
WILKES-BARRE PENNSYLVANIA

New York Pittsburgh Chicago
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TITAN METAL

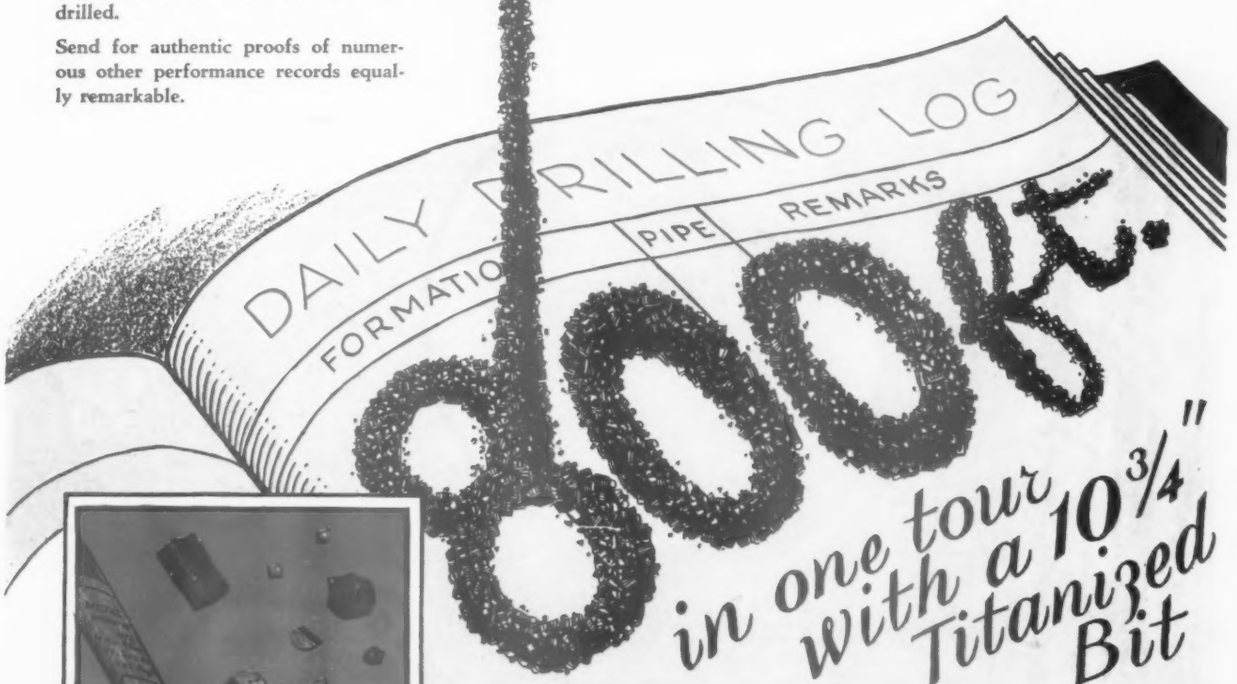
ROUTINE performance — duplicated day-in and day-out by TITANIZED bits, in every field—is typified by the sensational figures reproduced below.

In the same hole in which this record was made, ordinary fishtail bits averaged only 80 feet to a tour, requiring four to five hours for each round trip.

On that basis of comparison, the use of TITANIZED bits meant a clear saving of $680 for the 800 feet drilled.

Send for authentic proofs of numerous other performance records equally remarkable.

is "writing" records like this into daily drilling logs everywhere



Titan Metal is supplied in graded sizes for inserts, and Tube Titan Metal in granular form, to meet every requirement of drilling service.

MILLS ALLOYS, INC.

3202 So. San Pedro Street

Los Angeles, California, U.S.A.

The manufacture of Titan Metal is fully covered by patents. Infringements will be prosecuted.

WRIGHT

HOISTS-TROLLEYS-CRANES

points of superiority

No. 19-Steel Suspension Plates

—extend from bearing point of top hook cross-head to load sheave.

—another safety feature to take care of accidental overloads.

CHAIN HOISTS—TROLLEYS—TRAVELING CRANES—JIB CRANES—LOW HEAD ROOM TROLLEY HOISTS—TWIN HOOK HOISTS—HAND WINCHES, Etc.

You can secure WRIGHT Equipment from your Jobber

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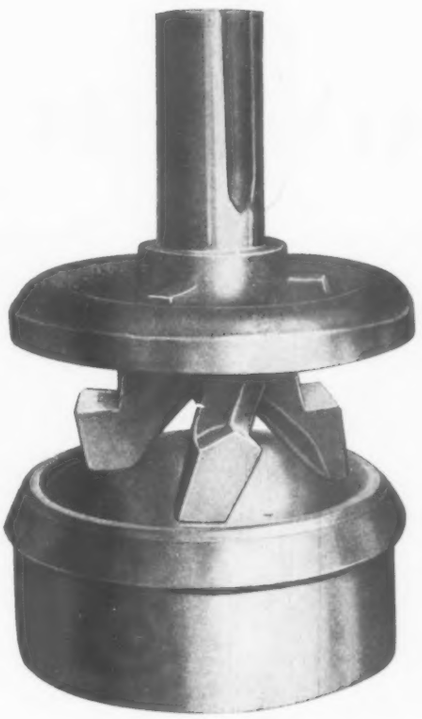


TRY . . . *one set!*

BELIEVE

IT . . . *or not!*

. . . *this* is the valve so many have standardized on . . . *because* it wears so long

Eason & Therolf . . . E. & T. for short . . . that's the name behind the slush pump valves so many hundreds of operators have and are standardizing on—simply because they wear so long.

All steel, specially heat-treated, one-piece construction. No loose wing nuts, caps, wing guides or inserts to bother with during the long life of the valve. A double tapered seat prevents gravel or other material from lodging and holding valve open. A corresponding recess on the valve cap provides a new fluid shock absorber and seal on every stroke of the pump. No inserts to wear out and be replaced.

A specially designed crow-foot guide obstructs but 8% of the total valve opening—and turns the valve on every stroke of the pump.

If you have tried E. & T. Valves, you are doubtless a user. If you have not tried them, do yourself the justice of ordering a set when next you need valves. Their long life will give you more than your money's worth! Or, you get your money back.

* * * * *

Oil and Water and cement pumps

No valve is so long-lived as E. & T. on oil pumps, water pumps or cement pumps. Many have run three years, and are still at it. All steel . . . no rubber, fibre or other inserts to rot out or become destroyed. No parts to work loose on the pump. Simple, rugged, exceedingly durable. Thousands and thousands of these types of valves sold annually. Try one set, and they'll convince you beyond all doubt!

* * * * *

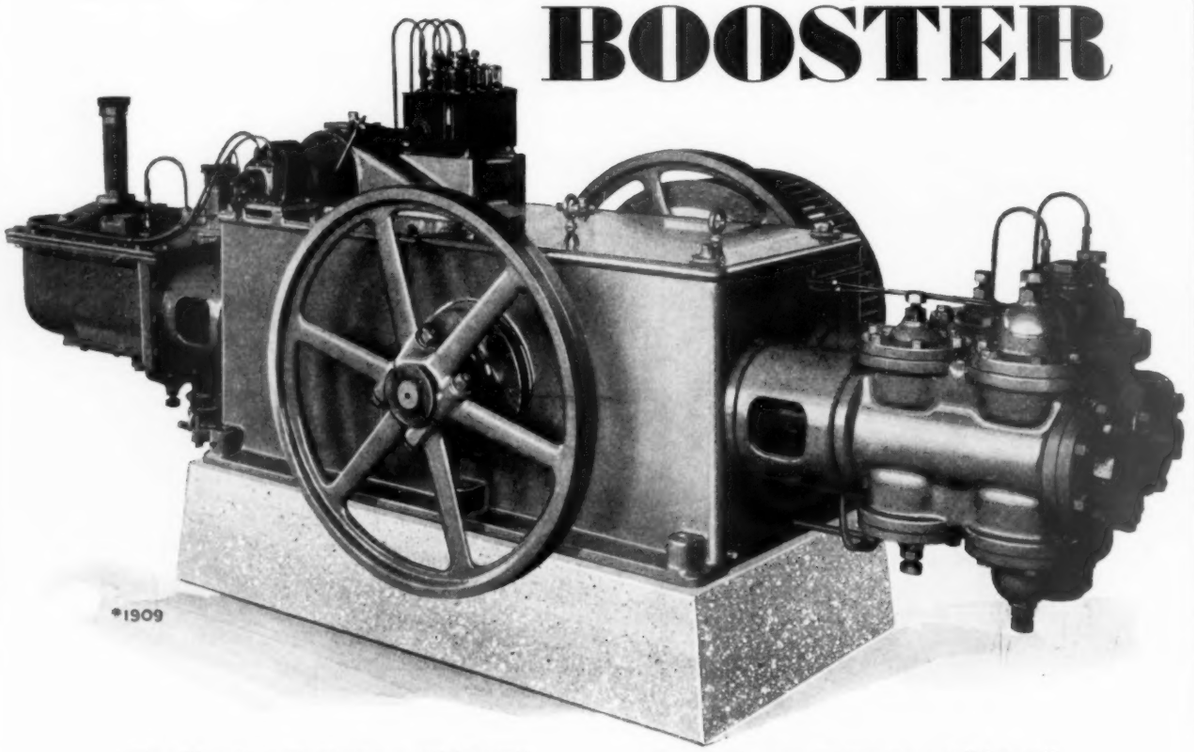
T. T. WORD SUPPLY COMPANY, INC.

Lake Charles Shreveport Seguin

HOUSTON

P. O. Box 276 — Phones: Day: Preston 1927; Night: Val. 21022; Hadley 1973

A BABY BOOSTER



Gas Engine Cylinders 4¼"x7" **Compressor Cylinders 4¾"x7"**

We call it—

A BABY BOOSTER

because it is so small, not because it was born yesterday. Goodness! no. We have had it on the acid test for several years.

The wrinkles are all ironed out and it is all ready to go and keep going. If you have some small gas wells that are too small to show a profit—

PUT IN A TRANSIT BABY BOOSTER

and cash in on the unproductive ones. A wee mite of a gas engine compressing unit, but—

RIGHT THERE WITH THE GOODS

when it comes to delivering gas—and for

RE-PRESSURING OIL SANDS

sure—if you need just a little one.

See our exhibit at the International Exposition Block "C"

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F. C. RICHMOND MACHINERY CO.
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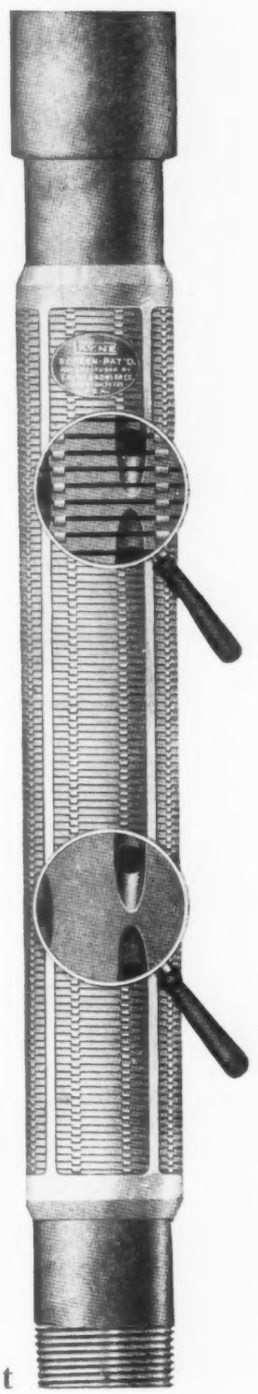
USED ROUND THE WORLD

by large and important oil companies

THE LAYNE MILLED GROOVE SCREEN



Milled Groove Screen's remarkable ability to safely stand 8,000 feet of drill pipe, to increase production from 33-1/3% to 100%, to stimulate low pressure wells, to avoid clogging with mud and sand, and to prevent sand cutting are reasons why this exclusive invention is used 'round the world by large and important oil companies.

The *Layne Milled Groove Screen* is oil industry's greatest and most important development and is the culmination of more than a quarter century's experience in building screens and the solving of screening problems.

Install the "greater production" *Milled Groove Screen* instead of wishing you had.

Write, wire, or phone for quick service, prices, or catalogue.

The Layne & Bowler Co.
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Install Milled Groove Instead of Wishing You Had

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Los Angeles, Calif.

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A Quarter Century of Experience and Development

"For every joint on every line"

Lines connected with Victaulic Couplings can't leak under any pressure the pipe will stand. They can't loosen or pull apart. Every joint is flexible and an expansion joint for the lengths it connects.

• ○ •

Mail the Coupon for Victaulic Bulletin

Available in every size from ¾ inch up—for steel, wrought iron, cast iron and spiral weld pipe—any pressure. See Sweet's page 451. Mail the coupon below.

VICTAULIC COMPANY OF AMERICA
26 Broadway New York

"For every joint on every line"

FLEXIBLE LEAK-PROOF

VICTAULIC

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26 Broadway New York
Please send me VICTAULIC BULLETIN No. 8

Name .....
Address .....

HOW'S THIS for SERVICE and ECONOMY

BOLIVAR, NEW YORK
August 1, 1930

Franklin Valveless Engine Company,
Franklin, Pennsylvania.

Gentlemen:-

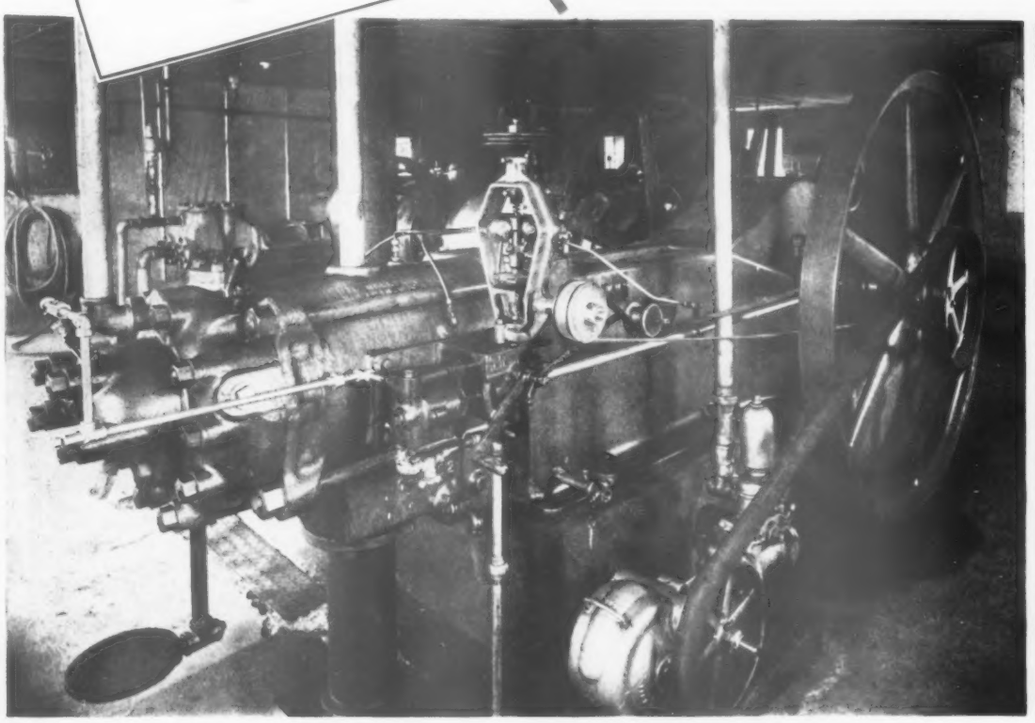
I purchased one of your Oil Engines in August of 1929 and installed it in a Water Plant near Bolivar, New York in September of 1929.

I have driven 3 water pumps with 400 pounds pressure and 1 vacuum pump with this engine up to July 1, 1930 without any repair or extra cost on same, night and day run. Fuel cost: 30 gallons of oil per day.

This plant was shut down on July 1, 1930 on account of curtailment of production measures.

Yours very truly,

P. J. Dermott
Bolivar N.Y.



Franklin Valveless Engine Company

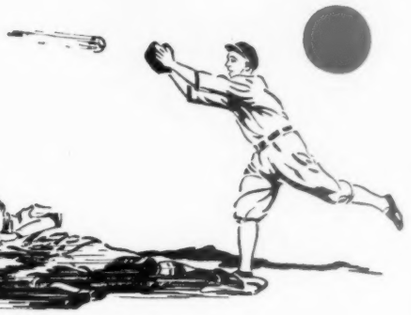
FRANKLIN, PENNSYLVANIA

Distributed by

OIL WELL SUPPLY COMPANY

SAFE!

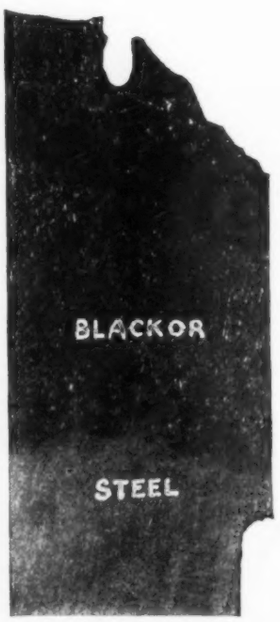
when you use BLACKOR on your drilling tools



BLACKOR-ED bits make record runs in every field. They slide home safely and more quickly to the pay sands. Wear is resisted in all formations by this super ABRASION-RESISTANT facing. Blackor is one of the hardest materials known; only the diamond surpasses it in hardness. But Blackor's application is more practical to oil well drilling than the diamond, because no inserts are needed.

Blackor-ed bits are protected by a solid wall of abrasion resistance. Old and new bits alike may be Blackor-ed with ease and economy. Applied by the carbon electric arc, the cheapest and most convenient method, particularly in foreign fields, Blackor is fused so completely into the steel that no division line can be found between the two. Blackor has the same tensile strength as steel and flexes with the steel under torsional strains, thus preventing cracking and chipping off. Modern methods of manufacture insure absolute uniformity of Blackor.

Protect your bits with Blackor and you will increase your drilling footage from 3 to 10 times without pulling the string to change tools.



The micro-photograph of 15 diameters shows the Blackor facing bonded perfectly to the steel of a tool.

BLACKOR COMPANY

Head Office
13007 South Main St., Los Angeles, California
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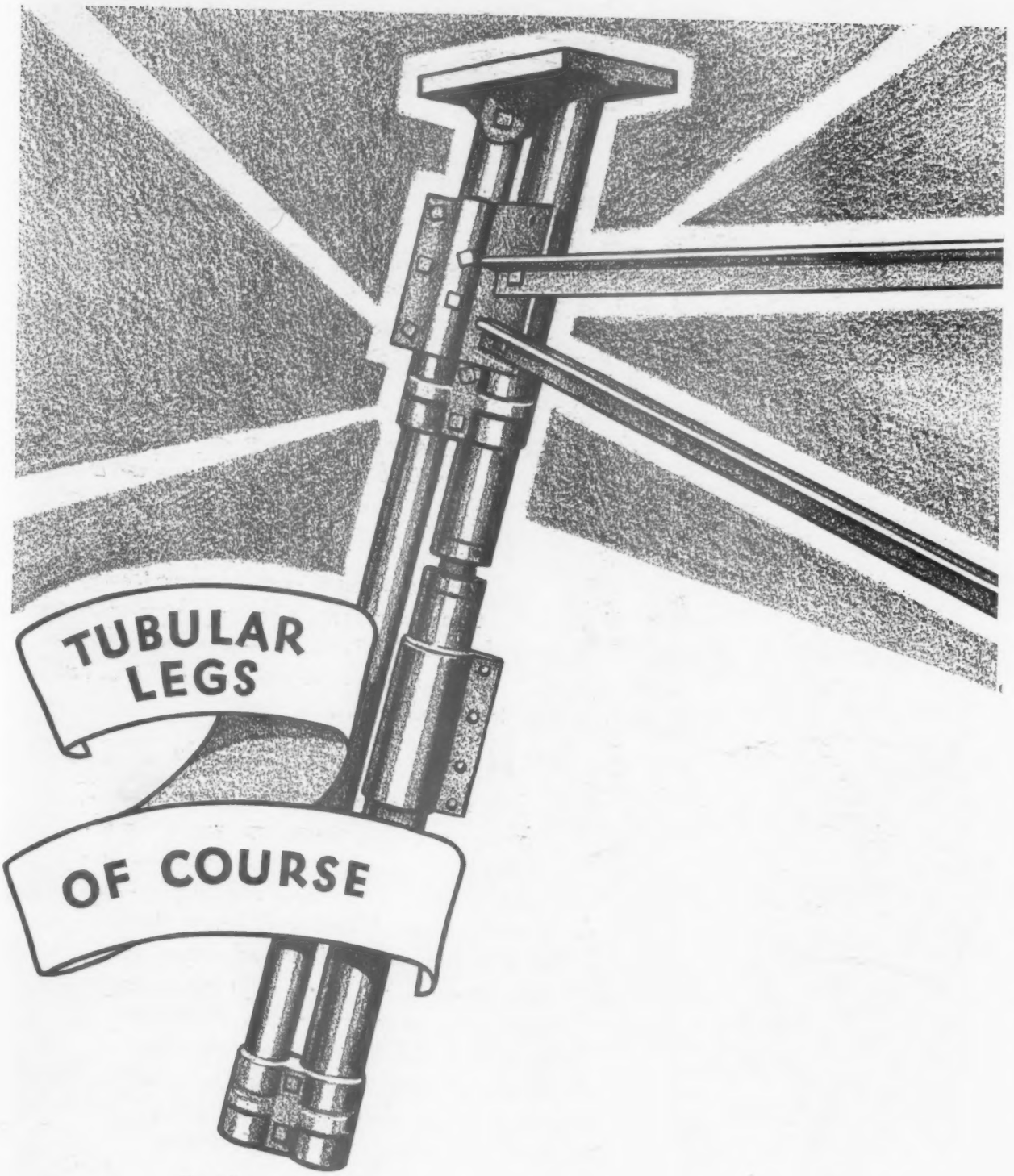
Tulsa,, Oklahoma, Office: 410 Thompson Bldg.
Houston, Texas, Office: 616 Public National Bank Bldg.

FULLY PROTECTED BY PATENTS

Blackor is packed in convenient 5-lb. containers. Complete working instructions are furnished. Being granular in form, loss by dusting is negligible.

BLACKOR

The Super Abrasion-Resistant Facing



THE Moore Champion
DERRICK

STRONGEST LEGS. . . . .

The shape most efficient for column loading—the tube—is employed for Moore Champion Derrick leg sections. The pipe used is made of 40-50 carbon, seamless steel, and it is galvanized both inside and outside.

MADE STRONGER

For increasing the capacity of a Champion Derrick, Moore tubular reinforcing legs supply the additional strength, with utmost convenience. Releg sections are joined by a clamp around the joint. The releg column is firmly fastened to the derrick leg by specially designed clamps. The Moore screw jack, inserted under the top section of each releg, assures proper load distribution between the derrick leg and the reinforcing leg. When attached, Moore relegs are integral parts of the structure. They may be removed easily, without disturbing the derrick itself in any way.

THE Moore Champion DERRICK

Moore ALL STEEL RIG EQUIPMENT

LEE C. MOORE AND COMPANY, INC.
PITTSBURGH Established 1907 TULSA
New York Offices
Oilfield Equipment Co., 30 Church Street, New York, N. Y.
DALLAS, TEXAS WICHITA, KANSAS CASPER, WYO.
SHREVEPORT, LA. HOUSTON, TEXAS
Stocks in All Principal Fields

"Caterpillar" Dealers are Resourceful—

ONE picture shows how the International General Electric S. A. delivered six "Caterpillar" Thirty Tractors to the Department of Cundinamarca, Colombia—driving the machines 200 kilometers under their own power and then using an improvised ferry across the Magdalena.

Another view shows an *express* shipment by the R. B. George Machinery Co. to the Texas Oil Company. "Caterpillar" dealers are resourceful in making shipments — alert in suggesting new uses — experienced in devising hitches and applying "Caterpillar" power. You may profitably put your power problems up to the "Caterpillar" dealer. He will show you how "Caterpillar" Tractors will do your jobs *better, quicker, cheaper!*

Prices—f. o. b. Peoria, Illinois

TEN	$1100	TWENTY	$1900
FIFTEEN	$1450	THIRTY	$2375
	SIXTY	$4175	

Caterpillar Tractor Co.

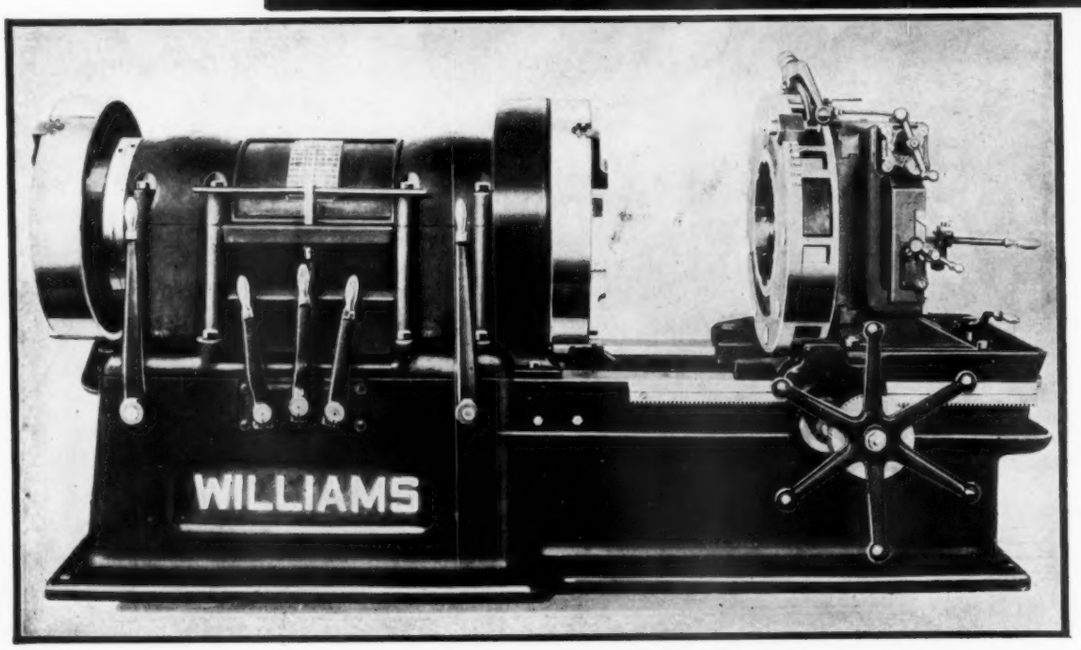
PEORIA, ILL. *and* SAN LEANDRO, CALIF., U. S. A.

Track-type Tractors Combines Road Machinery

(There's a "Caterpillar" Dealer Near You)

CATERPILLAR
REG. U.S. PAT. OFF.
TRACTOR

25% FASTER, LONGER-LIVED, MORE ECONOMICAL TO OPERATE



and one set of dies threads all sizes of pipe where pitch of thread is the same

THE WILLIAMS ~~RAPIDUCTION~~ THREADER

For fast, economical production threading or cutting-off operations around the oil fields or in the refinery there is no other machine built that will handle as much work as rapidly, accurately and economically as the WILLIAMS Rapiduction.

Among the many features found in no other machine is the famous Rapiduction head that will thread all sizes of pipe within the range of the machine, where the pitch of thread does not change, without changing dies or die-head. This is important because it saves the time and bother of removing head and dies when changing from one size pipe to another.

Of special interest to the oil industry is the taper attachment which can be furnished when required. This device makes it possible to cut correctly tapered threads of any length without the use of special dies.

Write for literature that describes in full the many exclusive features of the Rapiduction line that includes machines for all sizes from ¼" up to 20". A Rapiduction will save its cost several times a year on your threading and cutting-off jobs.

A Leader in the Most Complete Line of Hand and Power Operated Pipe and Bolt Threading Equipment in the World

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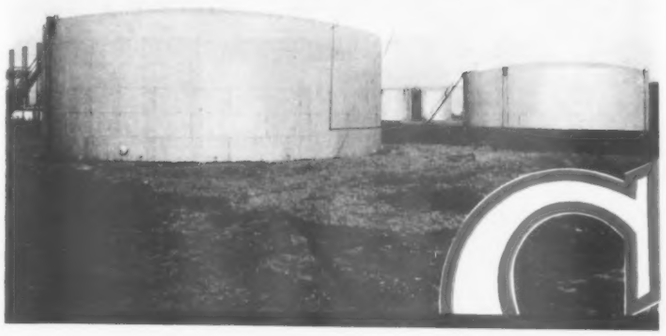
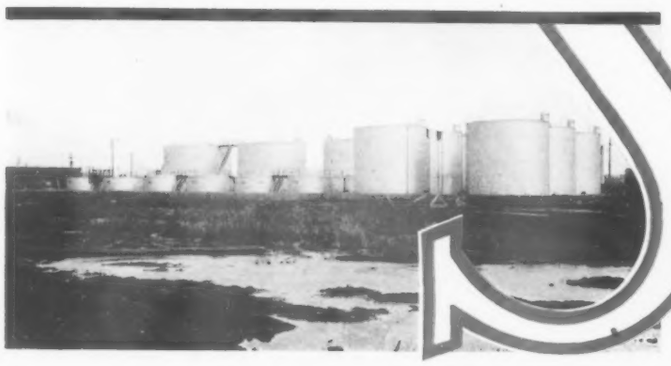


McClintic-Marshall



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Protecting vast fortunes in oil and gas the world over . . . designed, fabricated and erected by an organization that has *pioneered* in the development of modern steel tank construction.

You will find McClintic-Marshall service prompt, efficient and economical. Ask us to quote you.

McClintic-Marshall Company

PITTSBURGH, PA. *Offices in Principal Cities*

HILL & FOSTER AUTOMATIC CATHEAD

TYPE "M"

Descriptive Bulletin No. 15A Sent on Request

THE NATIONAL SUPPLY COMPANIES

At the Tulsa Show:

See the new Fairbanks SPHERO VALVE, and other Fairbanks Products for the oil industry, in Booths No. 25 and 26.

Investigate the *New* SPHERO VALVE

Fairbanks SPHERO VALVE, 4″, 6″ and 8″ sizes, are worm and gear operated, and can also be arranged for remote control through the use of extension shafting. Available in any metal that can be cast.

THINK of it! A valve that is equally efficient in all lines—from field pipe lines to consumer lines! A valve which, because of its adjustable feature, is leakless and positive in action in any service from gas and gasoline to the heaviest crudes and sludges! A valve which, when opened, presents no more frictional resistance to stream flow than the pipe line itself!

That's the *new* Fairbanks SPHERO VALVE, the quick-opening, adjustable valve that is ideal in practically every application in the oil industry where quick-opening valves are required.

The *new* SPHERO VALVE requires only a quarter turn to open or close. Yet it provides a full portway opening and when closing, shears through gritty or scaling fluids as well as it does in handling thick, viscous materials. It gives a leak-proof, tight seal on any service from mud to air or high test gas or gasoline.

As will be noted from the illustration at the left Fairbanks SPHERO VALVES are designed to permit removal of wearing parts for renewal or repair *without disturbing the line*—a feature of SPHERO construction that will quickly reveal its value in maintenance costs.

Fairbanks SPHERO VALVES are normally furnished with semi-steel bodies and cap castings, with ball plugs in iron, semi-steel, bronze or steel castings. They can also be furnished in any metal that can be cast, including chrome nickel steel, acid-resisting bronze or other metals resistant to acid and corrosive attack.

A trial of Fairbanks SPHERO VALVES will quickly demonstrate their superiority over non-adjustable valves and cocks as well as other "quick-opening" valves. Write us, or the distributor near you.

THE FAIRBANKS COMPANY
New York, N. Y.; Boston, Mass.;
Pittsburgh, Pa.
Factory at Binghamton, N. Y.

Fairbanks SPHERO VALVES ½″, ¾″, 1″, 1¼″, 1½″, 2″, 2½″, 3″, 4″ and 6″ sizes, are wrench operated. Available in any metal that can be cast.

Distributors Everywhere

Fairbanks SPHERO *Valves*

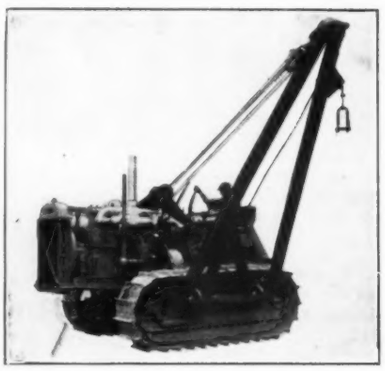
are unequalled for loading racks on all classes of crude oils and high test gasolines, including all classes of distillates; for refinery treating of oils which run through the average type of valves; for lines on storage and blending tanks; for test lines and observation lines from distillation apparatus; for field mud pump lines, flow lines, boiler blow-off piping, feed lines and air compression lines; for railroad and steamship loading lines and sales station lines, and for practically every line where quick-opening valves are required. Write for booklet.

CARDWELL ALL STEEL

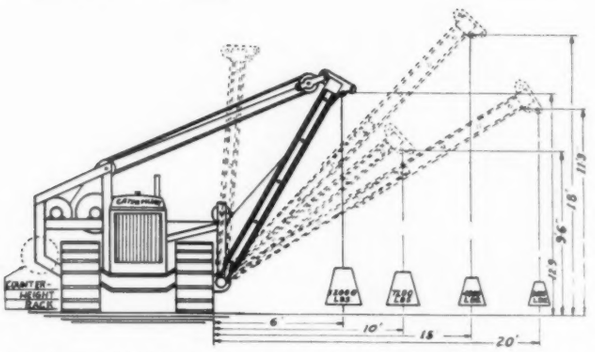
TRADE MARK

OIL FIELD AND PIPE LINE EQUIPMENT FOR "CATERPILLAR" TRACTORS

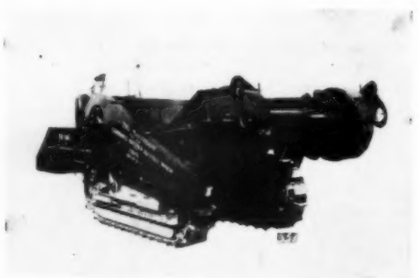
"Built to Fit the Job"



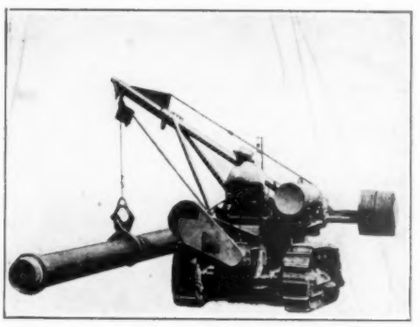
Pipeline Winch for 30 or 60 "Caterpillar"



These loads were lifted in actual tests by a Model P-T 60 winch without counterweights. If loads are to be transported, 3,500 pounds of counterweights can be furnished. If loads are transported over uneven ground with counterweights, a reduction of 25% of load is recommended.



Model S-T 60 Oilfield Winch



Model R 30 Pipe Line Winch

Comparative Specifications of Four ALLSTEEL Oilfield Winches

When operating in speed:	Model FA-15 for "Caterpillar" 15		Model 20-R for "Caterpillar" 20		Model SA-30 for "Caterpillar" 30		Model ST-60 for "Caterpillar" 60	
	Line Speed	Pounds Pull	Line Speed	Pounds Pull	Line Speed	Pounds Pull	Line Speed	Pounds Pull
1st Forward	60	11,000	73	11,250	50	20,600	65	32,000
2nd Forward	85	7,800	136	6,080	85	11,600	80	26,000
3rd Forward	170	3,900	270	3,060	190	5,200	185	11,400
4th Forward	315	2,000	382	2,160	280	3,500	345	6,200
5th Forward	None	None	None	None	500	2,000	355	6,000
6th Forward	None	None	None	None	1,000	900	600	3,500
7th Forward	None	None	None	None	None	None	1,000	2,100
8th Forward	None	None	None	None	None	None	1,850	1,150
Low Reverse	85	7,800	284	2,900	60	16,500	75	30,000
High Reverse	None	None	None	None	370	2,680	375	5,500
Cable Capacity, 5/8"	2,300 feet		3,300 feet		4,290 feet		13,000 feet	
Cable Capacity, 3/4"	1,600 feet		2,125 feet		2,984 feet		9,000 feet	
Drum Barrel, diameter	13 3/4 inches		14 3/4 inches		14 3/4 inches		17 1/2 inches	
Drum Flange, diameter	24 inches		26 inches		30 inches		40 inches	
Length of Drum Barrel	36 inches		41 inches		38 inches		67 inches	
Brake Area	856 sq. in.		900 sq. in.		960 sq. in.		2,000 sq. in.	
Maximum Depth Well	2,000 feet		3,000 feet		4,000 feet		10,000 feet	

Prices and detailed information of any model on request.

ALLSTEEL PRODUCTS MFG. CO.

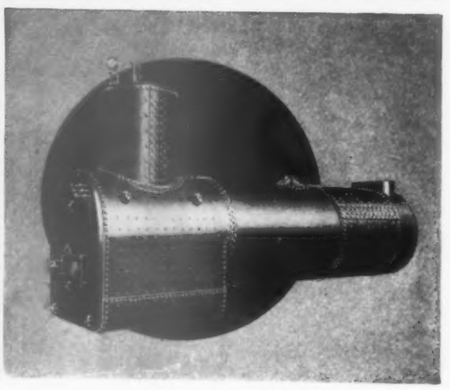
(INCORPORATED)

WICHITA, KANSAS

U . S . A

Donovan Boilers are Consistently Good

CHOSEN
WHEREVER
UNUSUAL
PERFORMANCE
IS NEEDED



ESPECIALLY FOR DEEP DRILLING

The Hope Natural Gas Company drilled a deep test at Sand Hill, Ritchie County, W. Va., to more than 4,300 feet before abandoning the well.

A 25 H.P. DONOVAN BOILER was chosen for this important job. This boiler was running a generator, in addition to drilling, and delivered the goods, using only one pound gas pressure for fuel.

From the depth of 4,300 feet the tools were pulled rapidly from the hole, bailer run twice, the tools again lowered into the hole and drilling resumed in exactly 50 minutes. It was never necessary to wait for steam. The pressure was never materially lowered and the water did not pull over.

At that time the boiler had been in constant use for more than five years. It had just finished another well to 4,600 feet for the same company before coming on this job. The total repairs for more than five years of use consisted of renewing the gas flue.

Surely better service than this is hard to find. What DONOVAN BOILERS have done for this company they can do for any other.

DONOVAN BOILERS are designed and built to give long life and good service. They are backed by years of experience in building oil country boilers. They have a record which their makers take pride in maintaining.

We hope that when you need boilers you will investigate DONOVAN BOILERS. We believe that you cannot find better boilers anywhere.

Manufactured by

Donovan Boiler Works, Inc.
PARKERSBURG, W. VA.

NEW YORK OFFICE—30 Church Street
FRICK-REID SUPPLY CORPORATION
Mid-Continent and Eastern Distributors
GREAT NORTHERN TOOL & SUPPLY CO.
MIDLAND IRON WORKS
Montana Distributors
All Leading Supply Houses Throughout the Eastern Fields Handle
DONOVAN QUALITY PRODUCTS
NONE BETTER

DONOVAN BOILERS

SKILLED SUPERVISION GUARANTEES THE QUALITY OF GULF PRODUCTS

COASTAL AND PARAFFINE CRUDES
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NAPHTHA—GAS—OILS
WAX—PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

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AMERICAN
STEEL & WIRE COMPANY
WIRE ROPE
(ON THE YELLOW REEL)

ALWAYS DEPENDABLE in Oil Field SERVICE

Here is the Oil Field's most popular rotary drilling and casing line. This construction of wire rope is composed of flattened strands.

By means of Flattened Strand Rope a much larger per cent of the surface of the strand is put in contact with the sheave or drum, in fact the wearing surface is from 100 to 150 per cent greater than in ropes of other construction. Our engineers in the oil country are at your disposal. Let them in on your wire rope problems.

Type "B" Flattened Strand Rotary Drilling and Casing Line

AMERICAN STEEL & WIRE COMPANY

SUBSIDIARY UNITED STATES STEEL CORPORATION

CHICAGO - NEW YORK
And All Principal Cities
STOCKS
CARRIED THROUGHOUT ALL OF THE OIL FIELDS

You'll find there are WILLIAMSPORT WIRE LINE DISTRIBUTORS *and Engineers* IN EVERY FIELD!

"A GOOD WIRE LINE"

Backed by intelligent service from men who know how to get full value out of their wire lines should appeal to every driller.

Williamsport Wire Rope Co.

Main Office and Works: Williamsport, Pa.
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Distributed by the Bridgeport Machine Company, Wichita, Kansas, and all of their Mid-Continent Branches.
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Borger, Texas	Hobbs, New Mexico	Odessa, Texas	Shreveport, La.	Wink, Texas

The March of » » »
Engineering Progress

The September Issues of The Oil Weekly carried special articles on Engineering Problems as follows:

Physical and Chemical Characteristics of Oil Sands
by W. F. Cloud, Asso. Prof. Engineering, U. of Oklahoma

Effects of Tubing on Flowing Wells in Yates Pool
by H. H. Harrison and associates

Equipment and Methods of Preventing Blowouts in Drilling
by Drilling Practice Committee A.P.I., Southwestern Dist.

Oklahoma City Completion Methods Reduce High Pressure Dangers
by Floyd Swindell, staff writer

Flow Characteristics of Saturated & Unsaturated Crude Oil
by W. F. Cloud, Asso. Prof. Engineering, U. of Oklahoma

Injection of Distillate Helps Gas Lift on Heavy Oil
By Brad Mills, staff writer

Advantages of Insulation on Oil Field Boilers
by W. H. Meier, chief engineer, Atlantic Oil Producing Co.

Factors Affecting Efficiency of Gas Drive Methods
by U. S. Bureau of Mines

Improved Technique and Safety Mark Modern Development at Long Beach
by Brad Mills, staff writer

Lubrication of Rotary Sprocket Chains
by C. R. Weiss, chief engineer, Link Belt Company

Proper Methods of Installing Oil and Gas Separators
by E. H. Adams, Trumble Gas Trap Company

Articles scheduled for early publication include a discussion of the advantages of clock-wise and counter-clock-wise movement of pumping powers; re-pressuring; and additional articles by W. F. Cloud, whose writings in past issues have met with a very strong expression of appreciation from Oil Weekly readers; elimination of leaching when drilling through salt; improved cable tool drilling in Poland, etc. In addition we plan some very interesting data on one important section where a great deal of exploratory work has been done during the past few years and where production in appreciable quantities is expected by many authorities as an early consequence of work now under way.—THE EDITOR.

Success in business is seldom due to uncommon talents or original power but to a high capacity for seeing that the other man gets his money's worth . . .

◆ ◆ ◆

HERCULES SUPPLY COMPANY

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EVERYTHING FOR OIL WELLS

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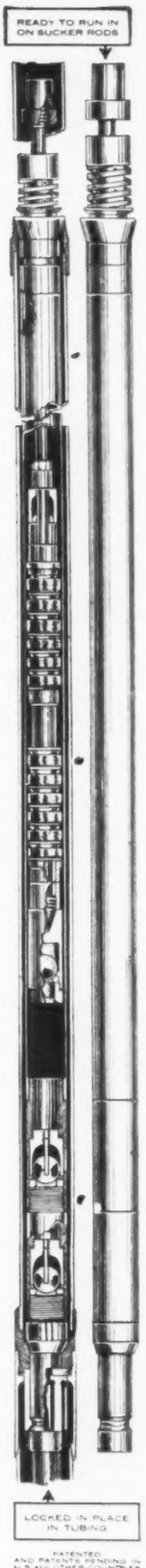
«I'd Rather Pay Around $100 for an EPCO Pump Than Lose $1000 by NOT Having One»

Which is another way of proving the old adage---
«If you NEED anything you usually pay for it
whether you buy it or not.»

Thousands of Producers thruout the world have found that EPCO Pumps quickly pay for themselves

THERE'S MORE THAN ONE REASON



"Economy is Right"

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Offices and Factory: 4424 E. 49th St., Los Angeles, Calif., U. S. A. Office and Warehouse: Ft. Worth, Texas. Representatives at Tulsa, Bristow, Ponca City, Duncan, Seminole and Earlsboro, Oklahoma; Fort Worth, Beaumont, Big Spring and Houston, Texas; Shreveport, Louisiana; also Representatives and distributing points at Long Beach, Huntington Beach, Santa Fe Springs, Taft and Bakersfield, California, or any National Supply Company Store throughout the world.

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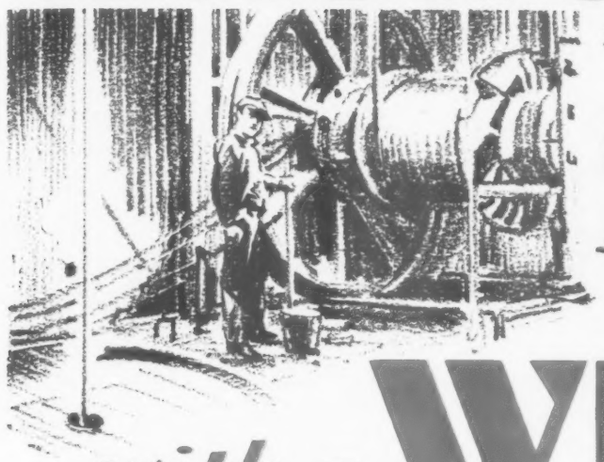

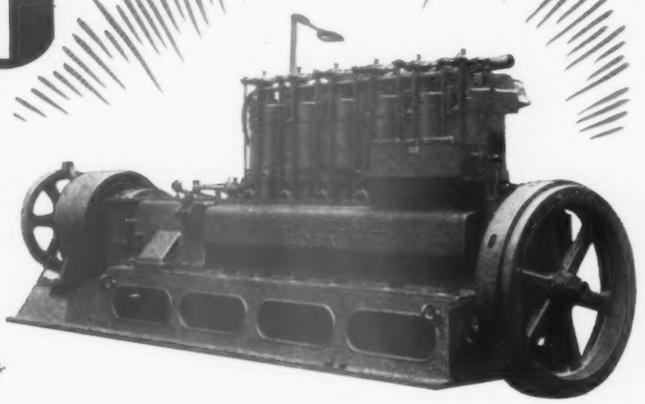

with a WRIGHT on the Job!

FOR 21 years, WRIGHT RELIABLE Heavy Duty Engines of various types have performed so perfectly that Wright Owners everywhere are accustomed to the subconscious thought "Nothing will go wrong with the Wright."

The result of 21 years' experience building Heavy Duty Engines exerts its inevitable influence in the superior design of WRIGHT RELIABLE Drilling Engines. Simple Construction — combination Force Feed and Splash Type Lubrication System — Timken Bearings — positive starting Magnetos — many other features — simply *eliminate* trouble.

Install a WRIGHT RELIABLE. Then you're ALL SET — for good — with trouble-free power at a fraction of the cost of steam. If you would like any information on either the "Big Six" or the "Big Four", please do us the favor of using the Coupon.

WRIGHT RELIABLE
"BIG SIX"
150 H.P., 150-700 R.P.M.
Burns Natural Gas or Gasoline

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Gentlemen: I am interested in Drilling Power with little expense and no trouble. Please send me information on your WRIGHT RELIABLE.

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Cement vs. Metal

"The Industry has grown so fast and continues to grow so fast that methods, equipment, and men change almost over night"

" . . . It is not uncommon that pieces of metal are left in the hole which interfere with the action of the bit . . . no core is apt to be recovered . . . iron in hole must be removed or sidetracked . . . "

Petroleum Engineering Handbook.

You wouldn't deliberately thrust your hand into the flame of an acetylene torch.

No more should you deliberately use equipment containing any kind of metal valves, plugs, or parts which must be broken out and left in the hole.

Time is a matter of paramount importance in the completion of the well—speeding up every operation—eliminating delays and wasted time.

The answer to this problem is simple—just a matter of getting one thing straight in your mind:

Baker Cement Floating, Guiding, and Cementing Equipment positively eliminates all of the troubles which are an inseparable part of the use of equipment containing metal.

The Valves, Plugs and Guides of Baker Cement Equipment are entirely NON-METALLIC. They disintegrate readily under the bit and leave an absolutely clean hole.

When you use Baker Cement Equipment, you eliminate:

a. Fracturing or cracking your cement job.

b. Metal left in the hole to follow the bit down and continually need side-tracking or possibly fishing out.

c. Splinters from wood plugs getting into the mud pits, and then into the pumps to make trouble.

d. Metal left in the hole to prevent coring after setting the water string, leaving a blank in the well log.

e. Metal left in the hole to come up and lodge in the flow bean and build up sudden pressures, or to lodge in the valve seats and make trouble.

f. Metal left in the hole for the driller to pound away on for two or three hours, "after standardizing."

g. Metal left in the hole to prevent coring after the water shut-off on top of the oil sands, making it impossible to know depth of sands, whether it contains water, etc.

AND—the deeper you go the more serious these troubles become.

Petroleum engineers who have investigated and know the advantages of Baker Cement Equipment insist on its use.

Baker Cement Equipment has strength beyond the demands which can be made on it in even the deepest wells. The guides will stand tremendous impacts—350 TONS—without even cracking. The plugs are solid concrete, not a shell of metal. Even if they should be broken off, the Shoe and the Float Valve will continue to function.

In Booths 98 and 113, Oklahoma Building, at the Tulsa Oil Exposition, you'll find the entire line of Baker Cement Equipment, with cutaway Shoes to show their inner construction. See them, by all means—they're interesting.

Finally, STICK A PIN IN THIS FACT: No matter what your Floating, Guiding, or Cementing problems, you'll find a complete and satisfactory answer to them in Baker Cement Equipment.

Export Sales Office:
Room 736, 25 Broadway,
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Stocks of Baker Tools and Equipment are carried by Dealers in all active fields

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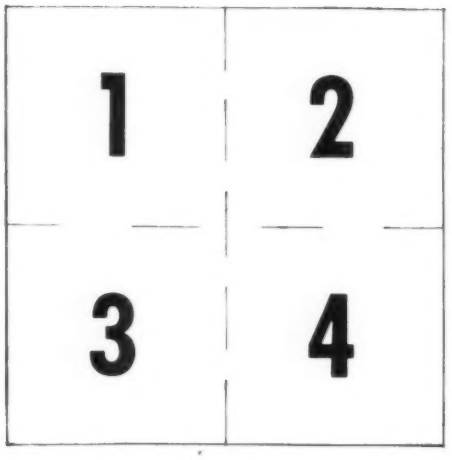
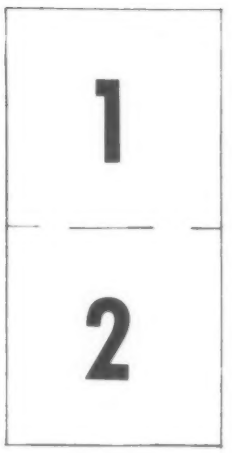
Full Stocks and Immediate Service are always available

Maps on this order too large to be e
are filmed clockwise beginning in the
right and top to bottom as many fram
diagrams illustrate the method.





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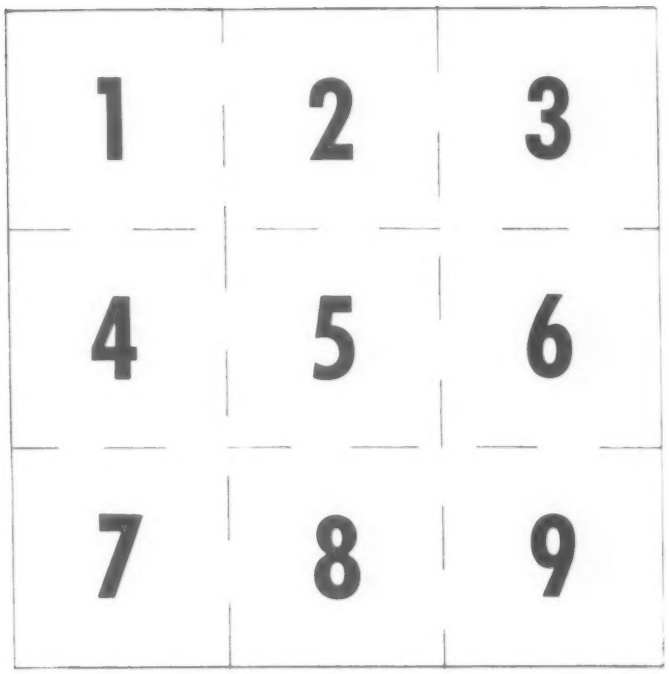


Crowthers
Callaham
Three Rivers
LIVE OAK
Lucas
Palangana
Piedras Pintas
DUVAL

Field or Prospect	Location By Survey	Discover Company
	COLORAD	
Altair	Cook & Dewees G. S. Snider N. Whiting	Marlan Compa
	Structure, rather than dome ty shot with seismograph, but late and Humble did geophysical w ous core tests, but no deep well this is old prospect, and various vent of geophysical prospecting	
Alleyton	Jno. McCrosky	Humbl Penn
	Six miles northeast of Altair pr east-southwest fault trend. No by geophysical instruments. Gu Hugh Wilson 1, was abandoned had good gas showings from 28 Shell has block of leases three fault trend. This and above pr dome country, and usual hopes duction.	
	FORT BEN	
Moores Field	James Frazier L. Burknap	Gulf Pr Compan
	Also known as Orchard dome. F discovery credited to seismogra was discovery well. It came in barrels 34.5 gravity oil daily at	

Field or Prospect	Location By Survey	Discovery Company	Method	Date	General Results

, Texas---*Special*

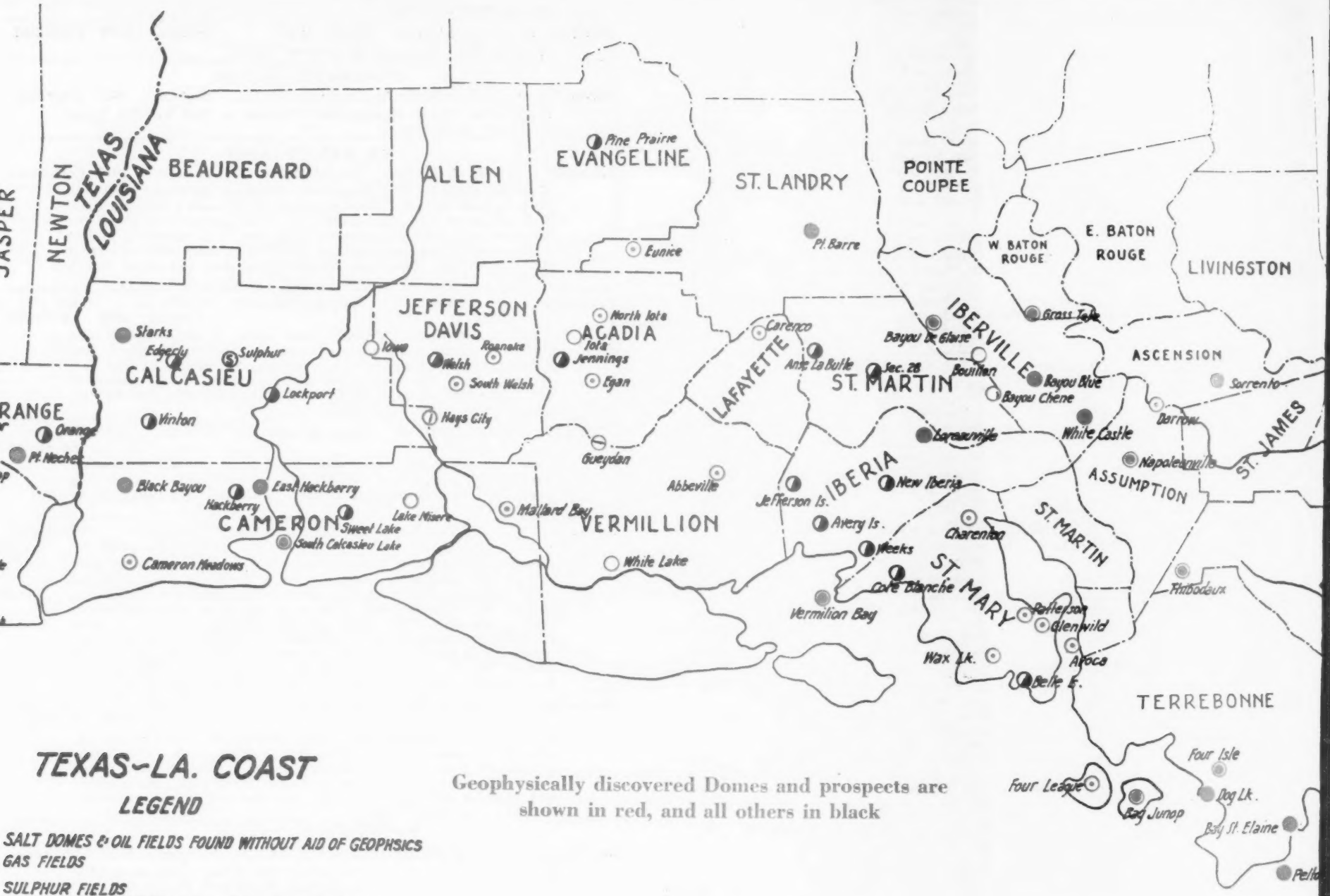
TEXA

- SALT DOMES
- GAS FIELDS
- SULPHUR FIE
- GE
- UNDRILLED
- DEVELOPMENT
- DOMES PROV
- OIL OR GAS

overy pany	Method	Date	General Results
ADO COUNTY			
rland Oil mpany	Seismic	1925	Unproductive
e type prospect. Marland originally lated dropped leases. In 1927 Gulf al work. Humble has drilled numerwells have been put down. However, rious wildcats were drilled before adcting.			
umble-Gulf-enn	Seismic and Torsion	1930	Unproductive
air prospect, being along same north-. Not a dome prospect, but checked s. Gulf-Humble R. R. Penn joint test, doned August 1, 1930, at 4700 feet; it om 2850 to 2950 feet and at 4175 feet. three miles to northeast along same ove prospect are north of regular salt hopes are for Raccoon Bend type pro-			
BEND COUNTY			
Gulf Production Company.	Seismic	1924	Oil
ome. First Texas-Louisiana Gulf Coast			

Field or Prospect
Halls Bayo
Dickinson
O at no
Coon Ranc
Hitchcock
Pr
San Leon
Yarboro
C oi fe

Additional



TEXAS-LA. COAST

LEGEND

SALT DOMES & OIL FIELDS FOUND WITHOUT AID OF GEOPHSICS
GAS FIELDS
SULPHUR FIELDS

GEOPHYSICAL DISCOVERIES

UNDRILLED DOMES OR STRUCTURES
DEVELOPMENT STARTED BUT NO PRODUCTION OR DOME FORMATION YET FOUND
DOMES PROVEN BY DRILLING INTO CAP ROCK OR SALT BUT NOT YET PRODUCTIVE
OIL OR GAS PRODUCTION DEVELOPED

Geophysically discovered Domes and prospects are shown in red, and all others in black

Field or Prospect	Location By Survey	Discovery Company	Method	Date	General Results
GALVESTON-BRAZORIA COUNTY LINE					
Halls Bayou	Asa Bringham	Humble O. & R. Company	Torsion	1928	Undrilled
GALVESTON COUNTY					
Dickinson	J. F. Perry, E. M. Martin	Republic Production Company	Torsion	1928	Slight gas show
Only test, Republic's Lobit 1, was abandoned in lime and shale at 4865 feet. It had a slight gas show in sand at 1000 feet, but no other important showings.					
Coon Ranch	S. A. White	Humble O. & R. Company	Torsion	1928	Undrilled
Hitchcock	W. H. Jack, James Butler	Shell Petroleum Corporation	Seismic	1929	Undrilled
Probably structure rather than dome.					
San Leon	J. W. Little, A. Edward	Humble O. & R. Company	Seismic	1929	Undrilled
GRIMES COUNTY					
Yarboro	J. J. Whiteside	Cranfill-Reynolds Company	Torsion	1929	Oil shows
Cranfill-Reynolds drilled two wells. First, Baylor 1, had four oil shows between 1800 and 2200 feet, and was abandoned at 4600 feet. Second, Stoneham 1, was abandoned in shale at 3400 feet.					
HARDIN COUNTY					
			Seismic	1928	Undrilled
tant showings were reported. Seismograph did not verify dome indications by torsion balance.					
Ogburn	John C. Ogburn	Cranfill-Reynolds Company	Torsion	1930	Oil show
Only test on prospect, Cranfill-Reynolds' Rorick 1, Block 20, Ogburn subdivision, was abandoned in shale at 5425 feet. It had three oil shows, one each immediately above and below 2200 feet, and one around 3000 feet.					
JACKSON COUNTY					
Francitas	J. Powers, H. Eldridge, J. R. Foster	Shell Petroleum Corporation	Seismic	1929	Undrilled
Town of Francitas is near center of prospect. Other companies besides Shell have been interested in area.					
Ganado	J. Davis, J. Heard, S. Rogers, W. Menefee		Seismic	1929	Undrilled
Lolita	G. Ewing, D. Hoffman	Alexander & Smith	Torsion	1929	No shows
Only test of area, The Texas Company's Mitchell 1, was abandoned recently at 6250 feet, and no promising shows had been reported.					
JEFFERSON COUNTY					
Fannett	M. Bowers, W. H. Smith	Gulf Production Company	Seismic	1925	Oil
Discovery well, Gulf's Bordages 2, was completed January 20, 1927, for 50 barrels 28 gravity oil by heads, but soon went dead. Next producer was Bordages 6, a 135-barrel pumper completed at 4760 feet September, 1928. First flowing well, Burrell 2, came in January, 1929, flowing 1000 barrels 33 gravity oil at 5625 feet, and since then various other deep wells have been completed. By August there had been 28 tests completed in the					

vered Domes and prospects are
l, and all others in black

Field or Prospect	Location By Survey	Discovery Company
	tant showings were reported. Sei indications by torsion balance.	
Ogburn	John C. Ogburn	Cranfill-R Company
	Only test on prospect, Cranfill-R Ogburn subdivision, was abandone three oil shows, one each immedia and one around 3000 feet.	
		JACKSON
Francitas	J. Powers H. Eldridge J. R. Foster	Shell Pet Corporat
	Town of Francitas is near center besides Shell have been interested	
Ganado	J. Davis J. Heard S. Rogers W. Menefee	
Lolita	G. Ewing D. Hoffman	Alexande Smith
	Only test of area, The Texas Co doned recently at 6250 feet, and reported.	
		JEFFERSON
Fannett	M. Bowers W. H. Smith	Gulf Pro Company
	Discovery well, Gulf's Bordages 1927, for 50 barrels 28 gravity oil Next producer was Bordages 6, at 4760 feet September, 1928. Firs	

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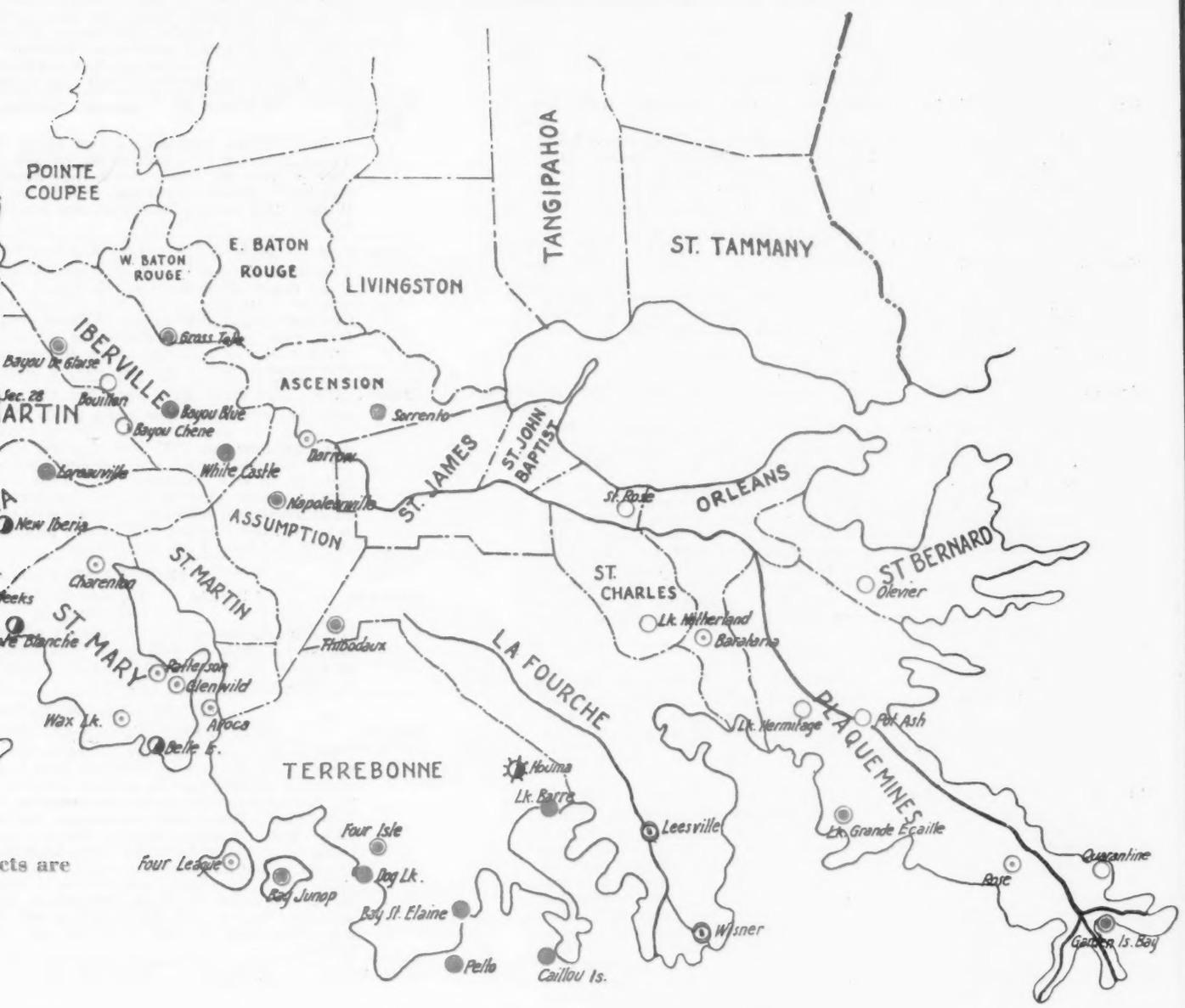
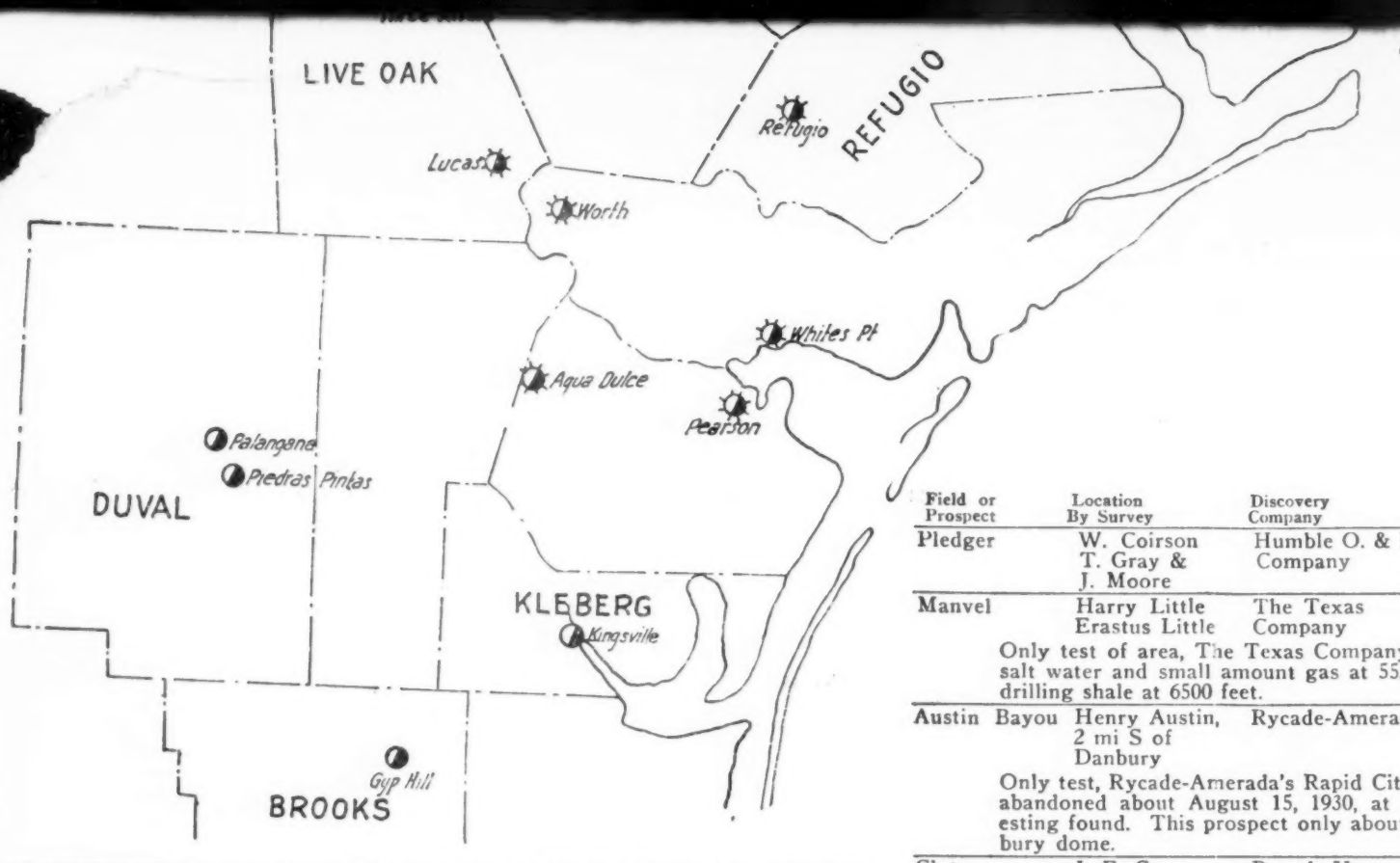


Field or Prospect	Location By Survey	Discovery Company	Method	Date	General Results
		reported. Seismograph did not verify dome n balance.			
		Cranfill-Reynolds Company	Torsion	1930	Oil show
		ect, Cranfill-Reynolds' Rorick 1, Block 20, was abandoned in shale at 5425 feet. It had each immediately above and below 2200 feet, feet.			
		JACKSON COUNTY			
		Shell Petroleum Corporation	Seismic	1929	Undrilled
		s near center of prospect. Other companies een interested in area.			
			Seismic	1929	Undrilled
		Alexander & Smith	Torsion	1929	No shows
		The Texas Company's Mitchell 1, was aban- 250 feet, and no promising shows had been			
		EFFERSON COUNTY			
		Gulf Production Company	Seismic	1925	Oil
		f's Bordages 2, was completed January 20, 28 gravity oil by heads, but soon went dead. Bordages 6, a 135-barrel pumper completed er, 1928. First flowing well, Burrell 2, came			

Field or Prospect	Location By Survey	Discovery Company	Method	Date	General Results
		bers County, was too far south and proved nothing. It was abandoned in April, 1928. in shale at 5775 feet. Second test of area, Gulf's Boyt 1 in H.&T.C. Survey 22, Liberty County, came in June 6, 1929, flowing 700 barrels 20 gravity oil daily at 2674 feet following setting of two joints of screen. Indications are that this is a field of the Orange type, non-salt dome or very deep dome. By latter part of August, 1930, Gulf had completed eight producers on the Boyt land, nearly all, apparently, in different sands. No. 2 yielded 20 gravity oil at 2900 feet; No. 3 produced 27.5 gravity crude at 4800 feet; No. 4 yielded 25 gravity oil at 3800 feet; No. 6 was completed at 3600 feet; and No. 7 and No. 8 around 4200 feet. Aside from the producers, Gulf has drilled two additional non-productive tests between the original dry hole and the producing field. Lee 1, in the Andrew Weaver survey, one mile southwest of production, was abandoned at 5525 feet, and Weiser 1 in the George Strangler survey went slightly below 6600 feet. Prior to geophysical work promise of an oil field was furnished through mineral waters.			
Devers	North part M. Whittington	Humble O. & R. Company	Torsion	1929	No shows
		Only test, Humble's Sabine Tram 1, was abandoned at 5800 feet in sandy shale about July 20, 1930. No promising shows were reported.			
Heiskell	Joseph Dugat Theodore Dorsett	Rycade Oil Corporation	Seismic	1930	First test drilling
		Rycade's Heiskell 1 in Joseph Dugat survey was drilling short time ago at 1250 feet.			
		MATAGORDA COUNTY			
Hawkinsville	Kingston & Powell Thos. Williams	Gulf Production Company	Seismic	1925	Salt
		drilled without obtaining production.			



Tabular History of Geophysically Discovered Domes, Fields and Prospects—Texas Gulf Coast

Field or Prospect	Location By Survey	Discovery Company	Method	Date	General Results
AUSTIN-WALLER COUNTY LINE					
San Felipe	Jno. McFarland S. F. Austin Wm. Cooper	Gulf Production Company	Seismic	1927	Salt; no oil
One of largest known Gulf Coast domes, comparable with Boling. Top of cap 3225 feet. One well, southeast side of dome, hit cap rock at 4700 feet and salt at 4750 feet. Seven tests completed prior to July 1, 1930; one now drilling. Above well, drilled in salt to 4830 feet, is deepest test of area.					
BRAZORIA COUNTY					
Allen	S. McNeal J. & W. McNeal T. & W. Alley	Shell Petroleum Corporation	Torsion	1925	Oil
First test, Roxana (now Shell) Petroleum Corporation's Allen 1, hit cap rock at 822 feet in fall of 1925, proving dome. Discovery well, same company's Allen Bernard River 1, came in May 17, 1927, flowing 700 barrels 31 gravity oil daily at 5141 feet. Above well which hit cap at 822 feet was abandoned in cap at 1225 feet. Salt found in several deep tests. Five wells completed for oil production at depths of 4900 to 5500 feet, but small yields have not justified drilling to the necessary great depths. Deepest test of field was Roxana's Poole A-2, abandoned in shale at 5960 feet. Fifteen tests completed in this field, and two now drilling. Production 17,450 barrels in 1928, and 5450 barrels in 1929.					
Clemens	W. Cummins J. McNeal	Shell Petroleum Corporation	Torsion	1925	Salt; no oil
One test hit cap rock at 780 feet. No recent development in field. Fifteen tests drilled, but no production although several good shows found. Greatest depth reached was 6319 feet in Shell's Pabst 2-A.					
Cedar Lane	S. F. Austin 48	Shell Petroleum Corporation	Torsion	1928	Undrilled
Considered fair prospect at one time, but since condemned.					
Sandy Point	Jno. W. Hall 10 and 11, west end	Gulf Production Company	Torsion-Seismic	1929	Undrilled
Devils Elbow	S. F. Austin 5½ League	McCollum Exploration Company	Seismic and Torsion	1928	Undrilled
Above five miles northeast of Clemens dome. Old shallow prospect, with gas seeps, checked geophysically.					
Danbury	H. T. & B. 14; East Side Henry Austin	Shell Petroleum Corporation	Seismic	1929	Little oil; salt
First test drilled, Shell's Blakely-Winston 1, swabbed 50 barrels daily, 50 per cent 22 gravity oil, at 1567-77 feet; later deepened and hit salt at 5225 feet. Two subsequent tests were failures. Another drilling. Elevation, gas and broken surface gave incentive for early wildcats; seismograph shifted active dome east. Doubtful prospect.					
Pledger	W. Coirson T. Gray & J. Moore	Humble O. & R. Company	Torsion	1929	Und
Manvel	Harry Little Erastus Little	The Texas Company	Torsion	1929	Gas
Only test of area, The Texas Company's O. F. Ewing 1, tested salt water and small amount gas at 5520 feet; recently reported drilling shale at 6500 feet.					
Austin Bayou	Henry Austin, 2 mi S of Danbury	Rycade-Amerada	Seismic	1930	No in d test
Only test, Rycade-Amerada's Rapid City 1, in 208-acre tract, was abandoned about August 15, 1930, at 6275 feet; nothing interesting found. This prospect only about two miles south of Danbury dome.					
Clute	J. E. Groce	Rycade-Vacuum	Torsion	1930	Und
Rycade and Vacuum made tentative location for Wisdom 1, but abandoned it.					
Fresno	Chas. Heywood H. T. & B. 2-77	The Texas Company	Torsion	1930	First drill
The Texas Company's Murdock 1, in Heywood Survey is drilling below 2000 feet.					
CALHOUN COUNTY					
Chocolate Creek	J. P. Tilley	The Texas Company	Torsion	1930	First drill
The Texas Company's F. C. & H. S. Thomas 1, six miles west of Port Lavaca, was recently drilling below 5300 feet. It showed salt water on drill stem test at 5050 feet.					
CHAMBERS COUNTY					
Lost Lake	E. H. R. Wallis	Pure Oil Company	Seismic	1927	Oil
This was originally a torsion balance minimum noted by Roxana (now Shell) Petroleum Corporation early in 1925. Shortly afterward, however, that company drilled a 3700-foot test a short distance north of the present known dome with negative results, and the prospect was then condemned. Had the test reached 6000 feet it probably would have hit the dome. In 1927, shooting for deeper domes, Pure Oil Company found the dome, and its first test, Lost River 1 in spring of 1928 bailed some oil at 3605 feet, and later proved dome, hitting cap rock at 3950 feet. Pure's Mayes 1, came in March 30, 1929, as gas well at 2701 feet, furnishing field's first gas production. Mayes 2 was discovery oil well, coming in August 1, 1929, flowing 200 barrels 23 gravity oil daily at 2748-82 feet. Completed tests now include eight oil producers and 11 failures. Cap rock over dome is very thick, and salt has not yet been reached. Cap rock was found highest at 3625 feet in Lost Lake 1. Lost River 1 drilled cap from 3950 to 4695 feet. Only one rig now active in field. Production in 1929 was 99,000 barrels. Deepest test up to now was Pure's Old River Lake 1, abandoned in cap rock at 4994 feet. Because of the dome being deep, as at Sugar Land, this field in early geophysical prospecting days was passed over by crews of three companies. Even before advent of geophysics, promise of oil at Lost Lake was given through gas seepage.					
Smith Point	Edward Branch	Humble O. & R. Company	Seismic	1928	Und
Salt Cedars	T. & N. O. 17 Key West	The Texas Company	Torsion	1928	One failu
The Texas Company's Jackson 1, T. & N. O. Survey, Section 17, was abandoned about Septeber 15, 1930, in sticky shale at 5005 feet. No sands looked good enough to test.					
Oyster Bayou	Robert Oliver, south part	Pure-Rycade	Seismic	1929	First drill
Pure-Rycade's Jackson 1 had no important showings down to 5400, at which depth it was drilling September 20, 1930.					
Cove	Chas. Tilton	Pure Oil Company	Seismic	1930	Slig show
Only test of area, Pure's Kirby 1, was abandoned at 6675 feet in July, 1930; had slight oil showing at 5920 feet. This prospect is between Barbers Hill and Lost Lake.					

					Date	General Results
					1929	Undrilled
					1929	Gas show
						g 1, tested ly reported
					1930	No shows in deep test
						e tract, was thing inter- uth of Dan-
					1930	Undrilled sdom 1, but
					1930	First test drilling
						vey is drill-
					1930	First well drilling
						miles west It showed
					1927	Oil
						ed by Rox- 25. Shortly test a short tive results, reached 6000 shooting for and its first at 3605 feet, eet. Pure's eet, furnish- ery oil well, ity oil daily il producers and salt has at 3625 feet to 4695 feet. 9 was 99,000 ver Lake 1, dome being al prospect- s. Even be- e was given
					1928	Undrilled
					1928	One test failure
						, Section 17, hale at 5005
					1929	First test drilling
						gs down to 930.
					1930	Slight shows
						6675 feet in s prospect is

shot with seismograph, but later dropped it. [illegible] and Humble did geophysical work. Humble has drilled numerous core tests, but no deep wells have been put down. However, this is old prospect, and various wildcats were drilled before advent of geophysical prospecting.

Alleyton	Jno. McCrosky	Humble-Gulf-Penn	Seismic and Torsion	1930	Unproductive

Six miles northeast of Altair prospect, being along same northeast-southwest fault trend. Not a dome prospect, but checked by geophysical instruments. Gulf-Humble R. R. Penn joint test, Hugh Wilson 1, was abandoned August 1, 1930, at 4700 feet; it had good gas showings from 2850 to 2950 feet and at 4175 feet. Shell has block of leases three miles to northeast along same fault trend. This and above prospect are north of regular salt dome country, and usual hopes are for Raccoon Bend type production.

FORT BEND COUNTY

Moores Field	James Frazier L. Burknap	Gulf Production Company.	Seismic	1924	Oil

Also known as Orchard dome. First Texas-Louisiana Gulf Coast discovery credited to seismograph. Fifth test, Gulf's Moore 5, was discovery well. It came in January 18, 1926, flowing 2000 barrels 34.5 gravity oil daily at 3702 feet. Out of 24 wells completed, nine have been producers. Besides discovery sand 22-gravity oil is found at 2800 feet, and 27 gravity oil from 3900 to 4100 feet. This is very shallow dome. Gypsum has been found around 350 feet. Deepest test of dome was Gulf's Moore 19 on south flank, abandoned in shale at 6750 feet. Field produced 21,150 barrels in 1927, 45,700 barrels in 1928, and 44,000 barrels in 1929.

Long Point	H. & T. C. Nos. 67, 68, 110, 111	Gulf Production Company.	Torsion	1924	Commercial sulphur

Gulf drilled over 50 tests, but did not develop an oil field, although one well, Wolf 13, yielded a little oil. It was completed December 15, 1928, as the discovery oil well of the field, pumping 100 barrels, 50 per cent oil, daily at 600 feet. Many of these Gulf wells were shallow, but some were 3000 to 4000 feet deep, and one, Trone 12, was abandoned in November, 1929, in heaving shale at 6250 feet. Cap rock rises within 650 feet of surface. Texas Gulf Sulphur Company began operating sulphur mining plant here in March, 1930.

Sugar Land	Wm. Stafford Wm. Little E. Alcorn	H. C. Cockburn	Torsion	1927	Oil

North American Exploration Company discovered dome by torsion balance for Cockburn slightly before Humble seismograph independently picked it up. Cockburn sold lease block to Humble, whose first test, Sugar Land Industries 1, came in March 26, 1928, flowing 800 barrels 28 gravity oil daily at 3536 feet. There have been only two dry holes drilled in the field, one gas well and 66 oil producers. Production is from sand immedately above dome, which is nearly 3500 feet deep, all oil being from same sand, which bends over dome but is not broken. It was the discovery of oil here which led to extensive geophysical search for other deep domes the past few years. Because the dome was deep, shallow seismograph shooting had missed Sugar Land and several companies passed it up. Field produced 389,750 barrels oil in 1928; 3,950,550 barrels in 1929; and 2,846,700 barrels the first eight months of 1930.

Needville	H. & T. C. 21, 23, 24, 26, 27	Meyer & SoRelle	Torsion	1928	Gas and oil shows

This is a very large minimum which is as yet not condemned in spite of the fact that two tests have been drilled. Seismograph gave no indication of dome, and it was assumed that if dome is present it is probably more than 6000 feet deep. On that assumption Cullen & West and Meyer & SoRelle drilled two tests. The first, Hartfield 1, had an oil show around 5000 feet, gas show at 6475 feet, set screen at 6890 feet and flowed salt water, and was then abandoned at that depth. Second test, Winkleman 1, was abandoned at 4652 feet in sand and shale. There is surface elevation here.

Smithers Lake	L. Smither, Edward Jeffery, Henry Jones	Bennett O. & G. Company	Torsion	1928	Undrilled

This is an old prospect which has been a center of considerable activity at various times, with elevation and gas seepages as encouragement. Work was done with both seismograph and torsion balance, but doubt exists as to importance of prospect.

Clodine	John Frederick, 4 mi S Clodine	Gulf Production Company	Torsion and Seismic	1929	Drilled; no shows

Gulf drilled two wells; no important shows were reported. First was abandoned in shale at 6050 feet, second at 4600 feet.

Rosenberg	Lester E. Cross	Humble O. & R. Company	Torsion	1929	No shows

Only test, Humble's Miller 1, was abandoned at 5515 feet in shale.

Richmond	J. Kuykendall	Grayburg Oil Company	Torsion	1929	No shows

Grayburg's R. F. Ransom 1, only test of area, was abandoned in salt water sand at 4335 feet; no shows were reported.

Pilant Lake	William Barrett Abner Harris	Pure Oil Company	Torsion	1929	No shows

Only test, Pure's Jackson Brown 1, was abandoned in shale at 4500 feet in May, 1930; no shows were reported.

Dickinson	[illegible] E. M. Martin	[illegible] tion Company			

Only test, Republic's Lobit 1, was abandoned in lime at 4865 feet. It had a slight gas show in sand at 100 no other important showings.

Coon Ranch	S. A. White	Humble O. & R. Company	Torsion		
Hitchcock	W. H. Jack, James Butler	Shell Petroleum Corporation	Seismic		

Probably structure rather than dome.

San Leon	J. W. Little, A. Edward	Humble O. & R. Company	Seismic		

GRIMES COUNTY

Yarboro	J. J. Whiteside	Cranfill-Reynolds Company	Torsion		

Cranfill-Reynolds drilled two wells. First, Baylor 1, oil shows between 1800 and 2200 feet, and was abandon feet. Second, Stoneham 1, was abandoned in shale at

HARDIN COUNTY

Arriola	F. Arriola	Gulf Production Company	Seismic		

Considered fair prospect.

Grigsby	E. Grigsby	Petty Petroleum Company	Torsion-Seismic		

Structural condition present, but no salt dome unless Shot recently with seismograph and some irregularity

HARRIS COUNTY

Aldine	Simon Contreras	Humble O.&R. Company	Torsion		

Gulf, Humble, The Texas Company and others checked took leases. There was, however, no verification on re is reported.

Deer Park	Enoch Brinson N. S. Clopper	Humble-Gulf	Torsion		

Only test of area, Strang Petroleum Corporation's J. W was abandoned in shale at 6125 feet; it was reported to showing around 6000 feet.

Genoa	August Whitlock	H. C. Cockburn	Torsion		

North American Exploration Company made torsio survey for H. C. Cockburn, who made deal with Humb velopment. Humble recently gave up leases after dri wells. Woodburn 1 had small gas show at 4700 feet abandoned at 5772 feet. Woodburn 2 came in in Novem at 3413-25 feet as 25,000,000-foot gas well, 700 pounds Deepened later it had oil shows at 3850 and 4125 feet, abandoned at 5250 feet.

Mykawa	W. J. Lovett W. D. Walker	H. C. Cockburn	Torsion		

As at Genoa and Sugar Land, H. C. Cockburn obtain after torsion balance survey was made for him by Nor ican Exploration Company; and Cockburn in turn tra Humble Oil & Refining Company for development. T company's third test, W. H. Irvin 2 in the W. B. Walk came in August 19, 1929, as a 50,000,000-foot gas well sure of 1500 pounds at 4150-89 feet. It was connected gas system, but early in December, 1929, it began around 25 barrels high gravity oil daily. Humble Siadous 1 as second gas well of field at 3453 feet, but it deepened and had gas shows at 3650 and at 4120 feet, around 100 barrels of 39 gravity oil daily at 4840-4930 slight oil show at 5750 feet, on drilling deeper, and w abandoned at 5900 feet in June, 1930. In addition to a wells five other tests have been drilled at Mykawa, all a as failures. Four of the total of seven Mykawa wells w 5500 feet, the deepest being Higgins O. & F. Company 1, abandoned at 6675 feet.

Almeda	R. T. Blackburn J. Hamilton	Vacuum Oil Co.	Torsion		

Only test, Cullen & West's Hicks-Higbee 1, was aban sticky shale at 4400 feet; no important showings repor face elevation here.

Bammel	C. Walters D. Harmon C. H. Delesezdenie	Humble O.&R. Company	Torsion		
Satsuma	A. Lawson M. McFariand	Humble O.&R. Company	Torsion		
Cedar Bayou	Hannah Nash Geo. Ellis	Shell Petroleum Corporation	Seismic		

Two tests drilled by Sloane Prospecting Company, torsion balance survey. Mrs. J. Ulrich 1 in south half o Nash survey had oil shows at 4475 feet, 4800 feet, 4950 5950 feet. It was abandoned at 6225 feet. Davis 1, loc feet northwest of Ulrich 1, was abandoned at 6400 fe had a few showings. Shell regards dome as being fart in George Ellis Survey, and has leases there. This prespect checked geophysically.

Eureka	John Flowers	Humble-Navarro	Torsion		

Only test of area, Buffalo Oil Company's Beall 1, was a about March 1, 1930, at 4650 feet in gumbo and lime. N

ph, but later dropped leases. In 1927 Gulf physical work. Humble has drilled numer- deep wells have been put down. However, and various wildcats were drilled before ad- prospecting.

ky	Humble-Gulf-Penn	Seismic and Torsion	1930	Unpro-	ductive

of Altair prospect, being along same north- trend. Not a dome prospect, but checked uments. Gulf-Humble R. R. Penn joint test, s abandoned August 1, 1930, at 4700 feet; it ngs from 2850 to 2950 feet and at 4175 feet. leases three miles to northeast along same nd above prospect are north of regular salt usual hopes are for Raccoon Bend type pro-

FORT BEND COUNTY

er	Gulf Production Company.	Seismic	1924	Oil

ard dome. First Texas-Louisiana Gulf Coast o seismograph. Fifth test, Gulf's Moore 5, It came in January 18, 1926, flowing 2000 oil daily at 3702 feet. Out of 24 wells com- een producers. Besides discovery sand 22- at 2800 feet, and 27 gravity oil from 3900 to ry shallow dome. Gypsum has been found epest test of dome was Gulf's Moore 19 on ed in shale at 6750 feet. Field produced 7, 45,700 barrels in 1928, and 44,000 barrels

os. 111	Gulf Production Company.	Torsion	1924	Commercial sulphur

tests, but did not develop an oil field, al- lf 13, yielded a little oil. It was completed s the discovery oil well of the field, pumping nt oil, daily at 600 feet. Many of these Gulf but some were 3000 to 4000 feet deep, and abandoned in November, 1929, in heaving Cap rock rises within 650 feet of surface. Company began operating sulphur mining 1930.

d	H. C. Cockburn	Torsion	1927	Oil

ploration Company discovered dome by tor- kburn slightly before Humble seismograph d it up. Cockburn sold lease block to t test, Sugar Land Industries 1, came in ing 800 barrels 28 gravity oil daily at 3536 en only two dry holes drilled in the field, 6 oil producers. Production is from sand ome, which is nearly 3500 feet deep, all sand, which bends over dome but is not discovery of oil here which led to extensive or other deep domes the past few years. as deep, shallow seismograph shooting had and several compainies passed it up. Field rels oil in 1928; 3,950,550 barrels in 1929; and first eight months of 1930.

	Meyer & SoRelle	Torsion	1928	Gas and oil shows

minimum which is as yet not condemned in t two tests have been drilled. Seismograph f dome, and it was assumed that if dome is more than 6000 feet deep. On that assump- and Meyer & SoRelle drilled two tests. 1, had an oil show around 5000 feet, gas t screen at 6890 feet and flowed salt water, oned at that depth. Second test, Winkle- d at 4652 feet in sand and shale. There is e.

d-	Bennett O. & G. Company	Torsion	1928	Undrilled

ct which has been a center o f considerable imes, with elevation and gas seepages as rk was done with both seismograph and doubt exists as to importance of prospect.

k, e	Gulf Production Company	Torsion and Seismic	1929	Drilled; no shows

s; no important shows were reported. First le at 6050 feet, second at 4600 feet.

ss	Humble O. & R. Company	Torsion	1929	No shows

Miller 1, was abandoned at 5515 feet in

	Grayburg Oil Company	Torsion	1929	No shows

nsom 1, only test of area, was abandoned in 35 feet; no shows were reported.

tt	Pure Oil Company	Torsion	1929	No shows

ckson Brown 1, was abandoned in shale at 0; no shows were reported.

Dickinson	J. F. Perry, E. M. Martin	Republic Production Company	Torsion	1928	Slight gas show

Only test, Republic's Lobit 1, was abandoned in lime and shale at 4865 feet. It had a slight gas show in sand at 1000 feet, but no other important showings.

Coon Ranch	S. A. White	Humble O. & R. Company	Torsion	1928	Undrilled
Hitchcock	W. H. Jack, James Butler	Shell Petroleum Corporation	Seismic	1929	Undrilled

Probably structure rather than dome.

San Leon	J. W. Little, A. Edward	Humble O. & R. Company	Seismic	1929	Undrilled

GRIMES COUNTY

Yarboro	J. J. Whiteside	Cranfill-Reynolds Company	Torsion	1929	Oil shows

Cranfill-Reynolds drilled two wells. First, Baylor 1, had four oil shows between 1800 and 2200 feet, and was abandoned at 4600 feet. Second, Stoneham 1, was abandoned in shale at 3400 feet.

HARDIN COUNTY

Arriola	F. Arriola	Gulf Production Company	Seismic	1928	Undrilled

Considered fair prospect.

Grigsby	E. Grigsby	Petty Petroleum Company	Torsion-Seismic	1929	Undrilled

Structural condition present, but no salt dome unless very deep. Shot recently with seismograph and some irregularity found.

HARRIS COUNTY

Aldine	Simon Contreras	Humble O.&R. Company	Torsion	1928	Undrilled

Gulf, Humble, The Texas Company and others checked area and took leases. There was, however, no verification on re-check, it is reported.

Deer Park	Enoch Brinson N. S. Clopper	Humble-Gulf	Torsion	1928	Gas show reported

Only test of area, Strang Petroleum Corporation's J. W. Good 1, was abandoned in shale at 6125 feet; it was reported to have gas showing around 6000 feet.

Genoa	August Whitlock	H. C. Cockburn	Torsion	1928	Gas

North American Exploration Company made torsion balance survey for H. C. Cockburn, who made deal with Humble for development. Humble recently gave up leases after drilling two wells. Woodburn 1 had small gas show at 4700 feet and was abandoned at 5772 feet. Woodburn 2 came in in November, 1929, at 3413-25 feet as 25,000,000-foot gas well, 700 pounds pressure. Deepened later it had oil shows at 3850 and 4125 feet, and was abandoned at 5250 feet.

Mykawa	W. J. Lovett W. D. Walker	H. C. Cockburn	Torsion	1928	Oil

As at Genoa and Sugar Land, H. C. Cockburn obtained leases after torsion balance survey was made for him by North American Exploration Company; and Cockburn in turn traded with Humble Oil & Refining Company for development. The latter company's third test, W. H. Irvin 2 in the W. B. Walker survey, came in August 19, 1929, as a 50,000,000-foot gas well with pressure of 1500 pounds at 4150-89 feet. It was connected to natural gas system, but early in December, 1929, it began producing around 25 barrels high gravity oil daily. Humble completed Siadous 1 as second gas well of field at 3453 feet, but it was later deepened and had gas shows at 3650 and at 4120 feet, swabbed around 100 barrels of 39 gravity oil daily at 4840-4930 feet, had slight oil show at 5750 feet, on drilling deeper, and was finally abandoned at 5900 feet in June, 1930. In addition to above two wells five other tests have been drilled at Mykawa, all abandoned as failures. Four of the total of seven Mykawa wells went below 5500 feet, the deepest being Higgins O. & F. Company's Siadous 1, abandoned at 6675 feet.

Almeda	R. T. Blackburn J. Hamilton	Vacuum Oil Co.	Torsion	1928	No shows

Only test, Cullen & West's Hicks-Higbee 1, was abandoned in sticky shale at 4400 feet; no important showings reported. Surface elevation here.

Bammel	C. Walters D. Harmon C. H. Delesezdenie	Humble O.&R. Company	Torsion	1928	Undrilled
Satsuma	A. Lawson M. McFariand	Humble O.&R. Company	Torsion	1928	Undrilled
Cedar Bayou	Hannah Nash Geo. Ellis	Shell Petroleum Corporation	Seismic	1929	Oil, gas shows

Two tests drilled by Sloane Prospecting Company, following torsion balance survey. Mrs. J. Ulrich 1 in south half of Hannah Nash survey had oil shows at 4475 feet, 4800 feet, 4950 feet, and 5950 feet. It was abandoned at 6225 feet. Davis 1, located 2100 feet northwest of Ulrich 1, was abandoned at 6400 feet; it also had a few showings. Shell regards dome as being farther south in George Ellis Survey, and has leases there. This is an old prespect checked geophysically.

Eureka	John Flowers	Humble-Navarro	Torsion	1929	No shows reported

Only test of area, Buffalo Oil Company's Beall 1, was abandoned about March 1, 1930, at 4650 feet in gumbo and lime. No impor-

					J
Ganado	J. Davis J. Heard S. Rogers W. Menefee				
Lolita	G. Ewing D. Hoffman				

Town of Francitas is besides Shell have be

Only test of area, T doned recently at 62 reported.

Fannett	M. Bowers W. H. Smith				

Discovery well, Gulf 1927, for 50 barrels 2 Next producer was at 4760 feet Septembe in January, 1929, flow and since then vario By latter part of Aug field, including nine drilled below 5000 f reached 6660 feet. T 1928 the field produ 296,000 barrels.

Hamshire	T. & N. O. 8				

Only test of area, She at 7300 feet October and another slight s but torsion balance

McFadden Ranch	S. Chatham				

Roxana (now Shell) area with torsion ba Clemens domes were until after seismic w

La Belle	T. & N. O. 208 A. Hotchkiss				

Only test of area, V doned in shale at 567 ing showings.

Cheek	M. Pivitot W. Carr				

Cockburn has leases lieves dome is towar it west of Cockburn

Moss Bluff	James McFadden				

Nearly 20 tests have 700 feet. Discovery pany's Sterling 6, w 800 barrels of 32 gr Since then one other duction Company's V west offset to the dis 1000 barrels 29 gravi well ever drilled in Bluff a promising ar pecting and an early presence of the don quired to establish o

Esperson	C. W. Fisher D. L. Kokern M. Duncan				

No cap rock or salt it is apparently very pany's Esperson 1 in of present production company's Esperson of No. 1 had oil sho on top of Jackson. Harvey S. Smith's Yount-Lee Oil Comp 1929, flowing 800 ba By late August, 193 in that discovery san production of 100 to in a sand found arou also been found at 1 addition to the 17 p include six abandon produced some oil f deepened in search 48,450 barrels in 1929 recovery had increas companies missed o prospecting, for as a showed only faint in

Hankamer	H. & T. C. 2 A. Allen				

First test, Gulf's W

f Francitas is near center of prospect. Other companies Shell have been interested in area.

J. Davis J. Heard S. Rogers W. Menefee		Seismic	1929	Undrilled
G. Ewing D. Hoffman	Alexander & Smith	Torsion	1929	No shows

st of area, The Texas Company's Mitchell 1, was aban- ecently at 6250 feet, and no promising shows had been l.

JEFFERSON COUNTY

M. Bowers W. H. Smith	Gulf Production Company	Seismic	1925	Oil

ry well, Gulf's Bordages 2, was completed January 20, r 50 barrels 28 gravity oil by heads, but soon went dead. roducer was Bordages 6, a 135-barrel pumper completed feet September, 1928. First flowing well, Burrell 2, came ary, 1929, flowing 1000 barrels 33 gravity oil at 5625 feet, ce then various other deep wells have been completed. r part of August there had been 28 tests completed in the cluding nine which yielded oil. Twelve of the tests were below 5000 feet, the deepest being Bordages 8, which 6660 feet. Top of the cap rock is around 850 feet. In e field produced 4000 barrels of oil, in 1929 it yielded barrels.

T. & N. O. 86	Shell Petroleum Corporation	Seismic	1928	Oil shows

st of area, Shell's C. T. Heisig 1, was abandoned in shale feet October 20, 1929. There was an oil show at 5000 feet ther slight show at 7100 feet. Seismograph first used, ion balance was later used as check.

S. Chatham	Shell Petroleum Corporation	Seismic	1928	Undrilled

(now Shell) Petroleum Corporation first worked this th torsion balance in 1925, about same time Allen & domes were found, but it was not regarded favorably er seismic work in 1928.

T. & N. O. 208 A. Hotchkiss	Vacuum Oil Company	Torsion	1929	No shows

st of area, Vacuum's Broussard & Hebert 1, was aban- shale at 5673 feet in November, 1929; it had no promis- vings.

M. Pivitot W. Carr	Cockburn Oil Corporation	Torsion	1929	Undrilled

n has leases in east portion of Pivitot Survey; Gulf be- ome is toward east in Carr survey; while others place of Cockburn interpretation.

LIBERTY COUNTY

ames McFadden	Gulf Production Company	Seismic	1926	Oil

20 tests have been drilled here. Top of cap is around Discovery oil well was Humble Oil & Refining Com- Sterling 6, which came in December 30, 1929, flowing rels of 32 gravity pipe line oil daily at 5500-5666 feet. en one other producer has been completed: Gulf Pro- Company's W. H. P. McFadden 1-A, a 650-foot north- set to the discovery well; it came in July 8, 1930, flowing rrels 29 gravity oil daily at 5831 feet. It is the deepest er drilled in the field. Elevation and gas made Moss promising area even before advent of geophysical pros- and an early test following the seismic work proved e of the dome, although considerable drilling was re- o establish oil production.

C. W. Fisher D. L. Kokernot M. Duncan	Union Explo- ration Company	Torsion	1928	Oil

rock or salt has yet been encountered. If a dome exists parently very deep. First well, Union Exploration Com- Esperson 1 in Angus McNiel survey, one-half mile south nt production, was entirely negative. Second test, same y's Esperson 2 in C. W. Fisher survey, 2000 feet north l had oil shows and showed probable presence of uplift of Jackson. It was abandoned at 6000 feet. Third test, S. Smith's Moores Bluff Corporation 1, later sold to Lee Oil Company, discovered oil. It came in August 15, owing 800 barrels 24.5 gravity oil daily at 3304-20 feet. August, 1930, there had been eight wells completed discovery sand. In the meantime nine wells with initial ion of 100 to 400 barrels 21 gravity oil were completed nd found around 2300 feet. Non-commercial sands have en found at 1800 feet, at 5750 feet, and at 7385 feet. In to the 17 producers mentioned above completed tests six abandoned as failures, although several of them d some oil from the regular pay horizons before being d in search of new sands. The field produced only arrels in 1929, but by the end of August, 1930, the total y had increased to approximately 500,000 barrels. Several ies missed or passed up this field in early geophysical ting, for as at Hankamer and Port Neches, seismograph only faint irregularity.

H. & T. C. 22 A. Allen	Gulf Production Company	Torsion	1926, 1928	Oil

est, Gulf's Wilburn 1 in Andrew Weaver survey, Cham- and the producing field. Lee 1, in the Andrew Weaver survey, one mile southwest of production, was abandoned at 5525 feet, and Weiser 1 in the George Strangler survey went slightly below 6600 feet. Prior to geophysical work promise of an oil field was furnished through mineral waters.

Devers	North part M. Whittington	Humble O. & R. Company	Torsion	1929	No shows

Only test, Humble's Sabine Tram 1, was abandoned at 5800 feet in sandy shale about July 20, 1930. No promising shows were reported.

Heiskell	Joseph Dugat Theodore Dorsett	Rycade Oil Corporation	Seismic	1930	First test drilling

Rycade's Heiskell 1 in Joseph Dugat survey was drilling short time ago at 1250 feet.

MATAGORDA COUNTY

Hawkinsville	Kingston & Powell Thos. Williams	Gulf Production Company	Seismic	1925	Salt

Over 20 tests have been drilled without obtaining production. Several were around 5000 feet deep, the deepest being Gulf's Craig 8, abandoned at 5095 feet. This is a very shallow dome, top of gypsum cap rock having been found at 200 feet in water well which was drilling preparatory to putting down Gulf's Craig 1, first location following geophysical work. That location was in northeast part of Craig lease on Thomas Williams survey. Another test on Craig land hit gypsum around 250 feet and went into salt around 700 feet.

Shepherds Mott	D. McCarty F. Fry J. Dwyer	H. C. Cockburn	Torsion	1928	Oil shows

This is reported to be a twin or double dome. It is an old prospect, marked by a surface elevation, and several wildcats had been drilled prior to checking with torsion balance. Following geophysical work one deep test has been completed on each of the two prospective domes. Crossland et al's Hawkins 1 on Daniel McCarty survey had gas show at 2625 feet, and oil shows at 3800 and 4800 feet, but was abandoned, having encountered heaving shale at 5200 feet. This test was on reported south dome, which is on Fry, Dwyer and McCarty surveys. North dome, on Fry and McCarty surveys, was tested by Cockburn Oil Corporation's Hawkins 1, Fry survey, which was reported to have several oil shows, but which was abandoned about July 15, 1930, in heaving shale at 6150 feet. Cockburn has location for Hawkins 2 at point 2700 feet due west of No. 1.

Sargent	D. E. Ballis & J. Van Dorn G. S. Penticost	Shell Petroleum Corporation	Seismic	1929	Undrilled

Mad Island	G. Wheelwright	Watts Oil Company	Torsion	1930	Gas show

Only test, Watts Oil Co.'s Titus 1, was abandoned about July 15, 1930, in sand and shale at 3500 feet. A gas showing was reported around 500 feet.

Citrus Grove	J. J. Criswell	Cockburn Oil Corporation	Torsion-Seismic	1930	First test drilling

Cockburn turned prospect to Empire Gas & Fuel Company for development. That company's Boker 1 was recently drilling below 4800 feet, with no important showings reported. Torsion balance work was done for Cockburn by North American Exploration Company. The Shell seismograph also checked this.

ORANGE COUNTY

Port Neches	Mary E. Hall Nos. 1 and 2 T. J. Notgrass	The Texas Company	Seismic	1928	Oil

First test, The Texas Company's Kuhn 1, came in May 9, 1929, flowing 1900 barrels 21.5 gravity oil daily at 3160 feet. Like Hankamer, this field is probably of the Orange or non-salt dome type. Five oil wells had been completed by the latter part of August, 1930, and a 6600-foot failure. One well is producing 25 gravity oil from 4400 feet; others were completed in discovery sand. As at Hankamer and Esperson, seismograph gave only faint indication of irregularity, while marshy land made use of torsion balance impractical. Thus the area was regarded as inferior prospect when first drilled. Field produced 243,450 barrels oil in 1929, and 420,000 barrels first seven months of 1930.

Spear	Nancy Davis	Sun Oil Company	Seismic	1928	Undrilled

VICTORIA COUNTY

Bloomington	M. Traviesa	Petty Petroleum Company	Torsion	1929	Gas

First test, Lion Oil Refining Company's McFadden 1, was completed June 18, 1930, as discovery well, making 35,000,000 feet of gas daily and spraying a little oil from 3738 to 3749 feet. Other drilling in progress.

WALLER COUNTY

Waller	B.B.B. & C. D. O. Boyle	Humble O. & R. Company	Torsion	1929	No shows

Only test has been Humble's Taub 1, shallow well, abandoned at 1050 feet.

WHARTON COUNTY

Louise	Morris, Brown, Cunningham	Pure Oil Company	Seismic	1928	Undrilled

Tabular History of Geophysically Discovered Domes, Fields and Prospects—Louisiana Gulf Coast

Field or Prospect	Section, township and range	Discovery Company	Method	Date	General Results
ACADIA PARISH					
Egan	30-9s-2w	Calcasieu Oil Co.	Torsion	1927	One test, aban'ed
This prospect falls in category of Needville on Texas coast, being large minimum which has not been sufficiently tested. Gulf, Magnolia and Calcasieu Oil Co. jointly control leases there. They drilled one test, Houssiere-Latrielle 1, which was abandoned about Christmas, 1928, at 5800 feet, having encountered no important showings.					
Iota	25,26,35,36-8s-2w	Sun Oil Co.	Seismic	1929	Undrilled
North Iota	10-8s-1w	Calcasieu Oil Co.	Torsion	1929	One test, aban'ed
Calcasieu Oil Company, Union Sulphur Company and Magnolia Petroleum Company drilled deep test, Hayes 1, which was abandoned in sticky shale at 6625 feet, about May 15, 1930. No interesting showings were reported.					
ASCENSION PARISH					
Darrow	27-10s-2e	Gulf Refining Co.	Torsion	1927	One test, aban'ed
Only test, Gulf's Belle Helene Sugar Co. 1, was abandoned May 25, 1929, in salt water sand at 5600 feet. No important showings.					
Sorrento	15, 16-10s-4e	Gulf Refining Co.	Seismic	1926	Oil
First test cratered; fourth, Gulf's United Lands Co. 4, was discovery well. It came in February 1, 1929, flowing 24 gravity oil at the rate of 7000 barrels daily from cap rock at 1660 feet. It was the first Gulf Coast well east of the Mississippi River. Field produced 282,200 barrels in 1928 and 104,000 barrels in 1929. Out of total of 18 completed tests in the field four were finished as oil producers, all from the cap rock. Top of cap is around 1650 feet. There have been only a few deep tests on flanks of dome. One in Section 22 was deepest; it was abandoned in heaving shale at 5735 feet.					
ASSUMPTION PARISH					
Napoleonville	43-12s-13e	Gulf Refining Co.	Seismic	1926	Cap rock
Only three tests drilled. Union Sulphur Co. abandoned one well in anhydrite at 1125 feet and another in gypsum at 675 feet. Gulf Refining Co. about March 20, 1929, abandoned Armalise Planting Co. 1 in Section 45-12s-13e in water sand at 6025 feet.					
CALCASIEU PARISH					
Starks	19, 30-9s-12w	Gulf Refining Co.	Seismic	1925	Oil
Operated jointly by Gulf and Standard of Louisiana. Dome formation was found in first well drilled following geophysical work, Standard's Industrial Lumber Co. 1 in 30-9s-12w, near top of dome, going into cap rock at 1300 feet. Eighth well established oil production, the discovery well being Gulf's Lutcher-Moore 4, Section 19, which came in January 21, 1927, flowing 2500 barrels 41 gravity oil daily at 4200 feet. The dome has possibilities for commercial sulphur production. Texas Gulf Sulphur Company has drilled about 20 tests into the cap rock investigating the sulphur deposit. Aside from several deep producers on the flanks of the dome nearly a dozen oil wells have been completed from cap rock or sands just above cap rock at top of dome at depths of 600 to 1200 feet. Field's total production amounted to 207,000 barrels in 1927, to 186,000 barrels in 1928, and 156,000 barrels in 1929.					
CALCASIEU-JEFFERSON DAVIS PARISHES					
Iowa	18, 19-9s-6w; 13, 24-9s-7w.	Shell Pet. Corp.	Seismic	1929	Undrilled
This prospect is two miles northwest of Iowa. Shell made location for Heyd 1 in Section 13-9s-7w, but later abandoned it, and no other location has been made.					
Hays City	28, 29, 32, 33-10s-5w.	Humble-Gulf	Seismic & Torsion	1929	Undrilled
CAMERON PARISH					
Black Bayou	7, 8, 18-12s-12w	Shell Pet. Corp.	Seismic	1927	Oil
First test, Roxana's (Shell's) Watkins 1, was abandoned in salt at 1700 feet May 4, 1928. Discovery oil well was Shell's Watkins 9, which came in April 29, 1929, swabbing 30 barrels of 19.6 gravity oil from cap rock at 981 feet; it later made a 35-barrel pumper. That well was on southwest side of the dome. First flank production from deep sand was from third completed oil well of the field, Watkins 6, on northeast side of dome. It came in flowing 475 barrels fluid, 25 per cent 28 gravity oil daily from sandy shale at 4727 feet. Aside from above two oil wells two other producers have been completed at Black Bayou by Shell: Watkins 10 for 45 barrels daily at 980 feet, and Watkins 12 for 700 barrels 25 gravity oil daily at 5240 feet and later for 600 barrels at 5265 feet. In addition to the four producers Shell has completed 10 non-productive tests, all on Watkins land. Deepest test of field was Watkins 12, mentioned above. Top of cap rock at crest of dome in Section 7 is found around 950 feet. Aside from oil, this dome has commercial sulphur possibilities. Sulphur					

Field or Prospect	Section, township and range	Discovery Company	Method
has been one other oil well, completed in deeper sa well, Standard's Schwing 2, came in originally at 330 later at 3575-3595 feet, in the latter instance flowing 1 25 gravity oil daily. While six completed tests have ducers, an equal number have been failures. Late in 1930, two additional wells were drilling: Standard's and E. B. and S. P. Schwing. Salt has been found as h feet. Field's production in 1929 was 10,900 barrels.			
Bayou de Glaisse	78,79,86-8s-8e	Calcasieu Oil Co.	Seismic
Union Sulphur Company drilled three wells below Third, Schwing 3 in Section 86, hit salt at 3700 feet 1929, proving the dome. Since then Standard comple foot test, a failure, and is now drilling the fifth well o Wilbert 8, in Section 78. This dome is sometimes call Bay.			
Grosse Tete	52, 53-9s-11e	Gulf Refining Co.	Seismic
This dome is also known as Bayou Choctau or Bay mines dome. First development began recently when Sulphur Company, which has sulphur rights, move rigs and began drilling on Wilbert land in Sectio First two tests were abandoned around 1800 feet, Wilbert 3, was reported about August 15, 1930, to abandoned in salt at 650 feet, having therefore prove			
White Castle	1, 8, 9-11s-12e	Shell Pet. Corp.	Seismic
Shell has completed four wells, all on Wilbert land, ures and two as producers. First test had good oil was abandoned at 2325 feet. Second also had goo but it was abandoned after logging cap rock from 4 feet. Third was discovery well. That well, Wilbert about October 15, 1929, flowing 500 barrels fluid. 75 oil 21 gravity, at 5835 feet. Fourth well of field, Wil in at 5175 feet flowing 1200 barrels pipe line oil, 24 g at 5150-5175 feet. Fifth test drilling.			
JEFFERSON PARISH			
Barataria	2-16s-23e	Humble Oil & Refining Co.	Seismic
Humble's Delaware Fur Company 1 was recently re ing sticky shale at 4425 feet. This prospect is sh northwest of Lafitte, and east of Lake Salvador. 12 miles south of New Orleans.			
JEFFERSON DAVIS PARISH			
Roanoke	14, 15-9s-4w	Vacuum Oil Co.	Torsion
Like Lost Lake, this was an early torsion balanc drilled with one test to 4000 feet with negative resu maturely condemned. As at Lost Lake the company the torsion balance survey and drilled a single test (now Shell) Petroleum Corporation, the time also be 1925. Vacuum Oil Company three years later m balance survey, and its first test, DeVilbiss 1, yield gravity oil but not in commercial quantity at 4200 feet 1929, and it was finally abandoned in sticky shale No. 2 also failed to obtain commercial oil, although showings, and it was abandoned at 6625 feet. Vacu was abandoned at 5925 feet. Fourth test, DeVil drilling.			
South Welsh	1-10s-5w	Pure Oil Co.	Seismic
This is also called Bayou Lacassine prospect. Only Day 1, was abandoned about May 15, 1930, at 5220 f			
LAFAYETTE PARISH			
Carenco	33-8s-4e	Pure Oil Co.	Seismic
Pure's J. Manmotin 1, first test on prospect, was rece below 6750 feet, and no important showings had bee			
LA FOURCHE PARISH			
Thibodaux	70,71,64-15s-15e	Gulf Refining Co.	Seismic
Also called Chacahoula or Lutcher dome, but its disc carries it as Thibodaux. No production yet, althoug pleted 25 tests and Union Sulphur Company five. Fi was drilled, Gulf's Stark 1 in Section 71, proved dome rock in October, 1927, at 1300 feet. Shallowest cap ro around 1100 feet. Practically all drilling has been on only two tests having been drilled below 3000 feet.			
Leesville	21,28,27-21s-22e	La. Ld. & Ex. Co.	Seismic
Also called Bayou LaFourche. First test, The Texa La. Ld. & Explo. Co. Leesville 1, had oil show feet, went to 5600 feet, sidetracked at 2600 feet, and drilling below 3200 feet in new hole.			
Wisner	19-23s-23e	Gulf Refining Co.	Seismic
Gulf's City of New Orleans 1 was abandoned in s feet about April 15, 1930. No important showings w This prospect is also called Marchand, but the disc lists it as Wisner.			

Method	Date	General Results
l in deeper sands. That iginally at 3300 feet and ance flowing 1000 barrels ted tests have been pro- ures. Late in September, g: Standard's Wilbert 5 een found as high as 2800 900 barrels.		
Co. Seismic	1927	Salt
wells below 3000 feet. t at 3700 feet March 20, ndard completed a 3200- e fifth well on the dome, ometimes called Whiskey		
Co. Seismic	1927	Salt
noctau or Bayou Plaque- ecently when Texas Gulf rights, moved in three nd in Section 53-9s-11e. nd 1800 feet, but third, 15, 1930, to have been erefore proved the dome.		
o. Seismic	1927	Oil
Wilbert land, two as fail- had good oil shows but lso had good showings, rock from 4165 to 4220 well, Wilbert 3, came in rrels fluid. 75 barrels net of field, Wilbert 4, came line oil, 24 gravity, daily		
RISH		
Seismic	1928	First well drilling
s recently reported drill- rospect is short distance e Salvador. It is about		
PARISH		
o. Torsion	1928	Oil shows
orsion balance minimum negative results and pre- the company which made a single test was Roxana e time also being early in ears later made torsion ilbiss 1, yielded some 23 y at 4200 feet in January, sticky shale at 5686 feet. oil, although there were 25 feet. Vacuum's Earl 1 test, DeVilbiss 1-A, is		
Seismic	1929	No shows in deep test.
ospect. Only test, Pure's 930, at 5220 feet.		
RISH		
Seismic	1930	Deep test drilling
ect, was recently drilling vings had been reported.		
ARISH		
Co. Seismic	1927	Salt
e, but its discoverer, Gulf, yet, although Gulf com- pany five. First well that proved dome, hitting cap lowest cap rock has been has been on top of dome, w 3000 feet.		
Co. Seismic	1928	Oil show
st, The Texas Company's d oil show around 5300 500 feet, and was recently		
Co. Seismic	1928	No shows in deep test
andoned in shale at 6375 showings were reported. but the discoverer, Gulf,		

Field or Prospect	Section, township and range	Discovery Company	Method	Date	General Results
Garland	48-4s-4e 6-4s-5e	Humble-Pure	Seismic	1929	Undrilled
Reported to be a high.					
Washington	17, 38-5s-5e	Pure Oil Co.	Seismic	1929	Undrilled
Questionable. Included on basis of rumor.					
ST. MARTIN PARISH					
Bayou Chene	3, 4, 9, 10-10s-9e	Calcasieu Oil Co.	Torsion	1927	Undrilled
Also called Bayou Mongoulais. Checked in 1929 by The Texas Company Seismograph.					
ST. MARY PARISH					
Glenwild	20, 21-15s-12e	La. Ld. & Ex. Co.	Seismic	1929	Oil shows
Two old wells of Rio Bravo Oil Company, 3400 and 5000 feet deep, had oil shows. Following geophysical work Louisiana Land & Exploration Company drilled two 1500-foot tests to check the Miocene, and later put down a deep test, L.L. Clarke 2 in Lot 20-15s-12e. It was abandoned at 5675 feet in shale without having found important showings. Abandonment date was about March 15, 1930. This prospect was regarded as deep dome.					
Patterson	21-15s-11e	Vacuum-Empire	Seismic & Torsion	1929	One test no shows
Vacuum and Empire drilled Oscar Zenor 1, only test of area following geophysical work. It was in Section 21, about two miles north of Patterson. The well was abandoned at 6355 feet in water sand. No interesting showings were found. Abandonment date was about April 15, 1930. Like Glenwild, this was regarded as possible deep dome.					
Wax Lake	11, 12-17s-9e	Pure Oil Co.	Seismic	1929	One test no shows
Only test of area, Pure's Wax Lake State 2 (No. 1 location abandoned), was drilled to 5900 feet without finding interesting sands, and was abandoned at that depth July 15, 1930, was in Section 11.					
Avoca	35-16s-12e	La. Ld. & Ex. Co.	Seismic & Torsion	1929	Oil shows
Avoca Oil Company and others drilled several wells, as deep as 3500 feet, during the past 10 years, and several good showings were reported. Gas, paraffine dirt and topography furnished incentive for early drilling. This is regarded as structure rather than a salt dome following geophysical work. Since the geophysical instruments were used only one well was drilled, Louisiana Land & Exploration Company's Charles W. Fox 1, in Section 35. It was abandoned about August 15, 1930, at 6050 feet in shale, and no sands were promising enough to test.					
Charenton	41-14s-10e	The Texas Co.	Seismic & Torsion	1930	First test drilling
This is an old prospect which was checked with geophysical instruments. First test following geophysical work, The Texas Company's South Coast Company 1, in Section 41, about two miles southeast of Charenton and four miles north of Franklin, was recently drilling below 7500 feet, but no showings of importance had been found.					
TERREBONNE PARISH					
Bay Junop	27, 28-21s-14e	La. Ld. & Ex. Co.	Seismic	1927	Cap rock
The Texas Company is developing this dome. Two tests have been completed, and third is drilling. First well, Taylor Bayou 1, proved dome, hitting cap rock at 5050 feet about February 1, 1930. There was a show of oil at 4800 feet. Second test, Bay Junop 1, hit cap rock at 4850 feet. Bay Junop 2 is drilling.					
Dog Lake	5, 6-22s-16e	La. Ld. & Ex. Co.	Seismic	1928	Oil
Dome is being developed by The Texas Company. First test, Dog Lake Bayou A-1, in Section 6, was discovery well. It came in May 25, 1929, flowing 15 barrels oil daily at 1056-62 feet. Second test, in Section 6, hit cap rock at 1550 feet, salt at 1725 feet, and was abandoned after drilling few feet into salt. Third test, Dog Lake Bayou B-2, was deepest of the field; located along flank of dome in Section 5, it was abandoned about March 10,1930, in water sand at 6350 feet. Fourth test, Dog Lake A-2, also in Section 5, was abandoned at 5100 feet just after hitting cap rock. Fifth well now drilling.					
Four Isle	13, 23-21s-16e	La. Ld. & Ex. Co.	Seismic	1928	Salt
All development is by The Texas Company. First test, Four Isle Bayou 1, proved existence of the dome, encountering cap rock at 550 feet and salt at 1375 feet. It was abandoned in salt at 1425 feet about July 25, 1929. Second well was abandoned in salt at 4700 feet, and third in cap rock at 3775 feet. Fourth is drilling.					
Bay St. Elaine	17-22s-18e	La. Ld. & Ex. Co.	Seismic	1928	Gas
First test, The Texas Company's Bay St. Elaine 1, Section 17, came in as 20,000,000-foot gas well at 680 feet on May 25, 1929. Second test was also completed as gas well at 800 feet. Third logged salt from 2350 to 2400 feet. Fourth swabbed some 27 gravity oil at 5175 feet, but was later abandoned in heaving shale at 5600 feet. Fifth test is drilling. All development by The Texas Company. This dome was formerly called Bay Coon Road.					
Lake Pelto	8, 9-23s-18e	La. Ld. & Ex. Co.	Seismic	1928	Oil
First test, The Texas Company's Lake Pelto, B-1 in Section 8,					

Dome or field	Indications leading to discovery	Discovery well: date, initial production, depth
West Columbia	Elevation, gas	Tyndall-Wyoming Oil Company's Hogg 1, Sept. 7, 1915, 6 bbls. 2900 feet
Ranks next to Spindle Top in yield per showed 233-528 barrels per acre. Wells ha tion and were long-lived.		
Stratton Ridge	Elevation, gas, sulphur waters	Freeport Sulphur Company's Dannenbaum 1, May 12, 1922, 150 bbls. at 4346 feet
Several false caps; salt top around 1300 fe		
Hoskins Mound	Elevation, gas, sulphur water	Mound Oil Company found shallo oil about 1902
Mound Oil Company and The Texas Com shallow oil production following original S oil development was discontinued, giving sulphur mining.		
Bryan Mound	Elevation, gas, sulphur water	J. M. Guffey Petroleum Company's No. 1, 1901, gas well, 6,000,000 cubic feet daily at 900 feet
Some drilling to depths greater than 35 on flanks of dome, but no commercial found. During 1914, Freeport Sulphur Co cial sulphur mining, which is still being ca		
CHAMBERS COUNT		
Barbers Hill	Elevation, gas, paraffin dirt, sulphur water	Gulf Production Company-Humble O. & R. Company Chambers Co. Ag Assn. 4, April 16 1916, 40 bbls. at 1571 feet
First drilling was in 1902. Although Gu first oil, first successful completion was U pany's Fisher 1, which came in Sept. 14 23 gravity oil daily at 2142 feet. Detailed appeared in The Oil Weekly April 4, 193		
FORT BEND COUN		
Blue Ridge	Elevation, gas	Gulf Production Company's Blakel C-2, April 4, 1919 1200 bbls at 2705 feet
Salt rises within 300 feet of surface and shafts.		
Big Creek	Gas, sulphur waters	Gulf Production Company's Whea 1, May 10, 1922, 150 bbls. at 580 feet
One of the latest discoveries without aid		
Nash	Elevation, gas, sulphur waters	Rycade Oil Corpo ration's Nash 5, Jan. 2, 1926, 500 bbls. at 4127 feet
Although it was already a prospect, the torsion balance in 1924.		
GALVESTON COUN		
High Island	Elevation, gas mineral waters	Sun Oil Co.'s Cad 4, Oct. 28, 1922, 70 bbls. at 2250 ft.
HARDIN COUNTY		
Saratoga	Broken surface, mineral waters and gas	Hooks et al, Hooks 1, 1901, 500 bbls. at 995 ft.
Came in shortly after Spindle Top boom. since 1905 to less than 350,000 barrels p flank sand oil to revive it as at Spindle Dayton, and other domes.		
Sour Lake	Broken surface, gas, and mineral waters	Sour Lake Oil Co.'s Fee 2,, July 18, 1902, 10,000 bbls. at 375 ft.
Produced originally from cap rock in lar revived in 1913 by discovery of deep flank		
Batson	Gas, paraffin	Paraffin Oil Co.'s

on, town- and range	Discovery Company	Method	Date	General Results
48-4s-4e 6-4s-5e	Humble-Pure	Seismic	1929	Undrilled

d to be a high.

17, 38-5s-5e	Pure Oil Co.	Seismic	1929	Undrilled

nable. Included on basis of rumor.

ST. MARTIN PARISH

, 4, 9, 10-10s-9e	Calcasieu Oil Co.	Torsion	1927	Undrilled

lled Bayou Mongoulais. Checked in 1929 by The Texas y Seismograph.

ST. MARY PARISH

20, 21-15s-12e	La. Ld. & Ex. Co.	Seismic	1929	Oil shows

l wells of Rio Bravo Oil Company, 3400 and 5000 feet d oil shows. Following geophysical work Louisiana Land ration Company drilled two 1500-foot tests to check the , and later put down a deep test, L.L. Clarke 2 in Lot 2e. It was abandoned at 5675 feet in shale without having portant showings. Abandonment date was about March This prospect was regarded as deep dome.

21-15s-11e	Vacuum-Empire	Seismic & Torsion	1929	One test no shows

and Empire drilled Oscar Zenor 1, only test of area g geophysical work. It was in Section 21, about two rth of Patterson. The well was abandoned at 6365 feet sand. No interesting showings were found. Abandonte was about April 15, 1930. Like Glenwild, this was reas possible deep dome.

11, 12-17s-9e	Pure Oil Co.	Seismic	1929	One test no shows

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41-14s-10e	The Texas Co.	Seismic & Torsion	1930	First test drilling

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TERREBONNE PARISH

27, 28-21s-14e	La. Ld. & Ex. Co.	Seismic	1927	Cap rock

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8, 9-23s-18e	La. Ld. & Ex. Co.	Seismic	1928	Oil

Dome or field	Indications leading to discovery	Discovery well: date, initial production, depth	Production (Bbls.) Total to Jan. 1, 1930 Peak year output	Top of cap rock (Approx.)
West Columbia	Elevation, gas	Tyndall-Wyoming Oil Company's Hogg 1, Sept. 7, 1915. 6 bbls. 2900 feet	71,019,000 1921 12,573,000	700

Ranks next to Spindle Top in yield per acre. Survey in 1927 showed 233,828 barrels per acre. Wells had high initial production and were long-lived.

Stratton Ridge	Elevation, gas, sulphur waters	Freeport Sulphur Company's Dannenbaum 1, May 12, 1922, 150 bbls. at 4346 feet	No commercial production	850

Several false caps; salt top around 1300 feet.

Hoskins Mound	Elevation, gas, sulphur water	Mound Oil Company found shallow oil about 1902	Sulphur production	500

Mound Oil Company and The Texas Company developed some shallow oil production following original Spindle Top boom, but oil development was discontinued, giving place to commercial sulphur mining.

Bryan Mound	Elevation, gas, sulphur water	J. M. Guffey Petroleum Company's No. 1, 1901, gas well, 6,000,000 cubic feet daily at 900 feet	Commercial sulphur prod.	700

Some drilling to depths greater than 3500 feet has been done on flanks of dome, but no commercial oil or gas has been found. During 1914, Freeport Sulphur Company began commercial sulphur mining, which is still being carried on.

CHAMBERS COUNTY

Barbers Hill	Elevation, gas, paraffin dirt, sulphur water	Gulf Production Company-Humble O. & R. Company's Chambers Co. Agr. Assn. 4, April 16, 1916, 40 bbls. at 1571 feet	5,927,000 1929 4,487,000	350

First drilling was in 1902. Although Gulf-Humble well found first oil, first successful completion was United Petroleum Company's Fisher 1, which came in Sept. 14, 1918, for 70 barrels 23 gravity oil daily at 2142 feet. Detailed papers on Barbers Hill appeared in The Oil Weekly April 4, 1930, and June 28, 1929.

FORT BEND COUNTY

Blue Ridge	Elevation, gas	Gulf Production Company's Blakely C-2, April 4, 1919, 1200 bbls at 2705 feet	7,142 000 1928 2,302,000	100

Salt rises within 300 feet of surface and is mined by means of shafts.

Big Creek	Gas, sulphur waters	Gulf Production Company's Wheat 1, May 10, 1922, 150 bbls. at 580 feet	4,669,000 1929 1,444,000	500

One of the latest discoveries without aid of geophysics.

Nash	Elevation, gas, sulphur waters	Rycade Oil Corporation's Nash 5, Jan. 2, 1926, 500 bbls. at 4127 feet	1,285,000 1928 491,000	625

Although it was already a prospect, the dome was verified by torsion balance in 1924.

GALVESTON COUNTY

High Island	Elevation, gas mineral waters	Sun Oil Co.'s Cade 4, Oct. 28, 1922, 70 bbls. at 2250 ft.	910,752 1929 429,968	130

HARDIN COUNTY

Saratoga	Broken surface, mineral waters and gas	Hooks et al, Hooks 1, 1901, 500 bbls. at 995 ft.	25,533,000 1905 2,922,000	1500

Came in shortly after Spindle Top boom. Has gradually declined since 1905 to less than 350,000 barrels per year, with no deep flank sand oil to revive it as at Spindle Top, Humble, North Dayton, and other domes.

Sour Lake	Broken surface, gas, and mineral waters	Sour Lake Oil Co.'s Fee 2,, July 18, 1902, 10,000 bbls. at 375 ft.	73,340,000 1903 8,848,000	800

Produced originally from cap rock in large quantities, and was revived in 1913 by discovery of deep flank sands.

[illegible]	Gas, paraffin	Paraffin Oil Co.'s	34,779,000	1080

Dome or field	
Hull	E

First dev all effort wells on recovery 4,000,000

South Liberty	S ga oi

This area and a 400

Davis Hill	E br

Oil was drilling p deep, by

Big Hill (Gulf)	E su

During 1 500,000 b cap rock. only few est in oil mining o

Markham	E

Orange (Cow Bayou)	B g

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Tabular

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e or field	Indications leading to discovery	Discovery well: date, initial production, depth	Production (Bbls.) Total to Jan. 1, 1930 Peak year output	Top of cap rock (Approx.)
l	Elevation, gas	Republic Production Company's Fee 3, July 26, 1918, 1000 bbls. at 1200 feet	64,474,000 1921 8,718,000	350
	First development took place in early days of Spindle Top, but all efforts for cap rock production failed, and field never had wells on top of dome, all oil coming from lateral sands. Annual recovery has not varied greatly during past decade, being around 4,000,000 to 6,000,000 barrels.			
th erty	Sulphur springs, gas escapes, oil seepages	South Liberty Oil Company's Pickett 2, January, 1925, 25 bbls. at 3206 feet	11,466,000 1925 4,551,000	350
	This area attracted attention shortly after Spindle Top discovery, and a 400-foot well in 1904 had good oil showings.			
is Hill	Elevation, gas, broken surface		No commercial production	800
	Oil was found but not in commercial quantity at 1000 feet. Only drilling past several years consisted of three wells, one 5160 feet deep, by The Texas Company.			
	MATAGORDA COUNTY			
Hill lf)	Elevation, gas, sulphur water	Wm. Cash and W. T. Goode's Mayes Synd. 1, 1904, 100 bbls. at 840 feet	500,000	825
	During 1904-1907, inclusive, field produced 203,580 barrels, and 500,000 barrels is liberal estimate of total recovery, all being from cap rock. Testing of flank sands has been very limited, however, only few wells having been drilled as deep as 3000 feet. Interest in oil has been overshadowed by the extensive and profitable mining of the rich sulphur deposit at top of the dome.			
kham	Elevation, gas	Hardy Oil Company's Hudson 1, Jan. 6, 1908, 3600 bbls. at 1734 feet	2,945,000 1911 562,000	1500
	ORANGE COUNTY			
nge w Bayou)	Broken surface, gas escapes	Rio Bravo Oil Company's Bland 1, Aug. 13, 1913, 500 bbls. at 3128 feet	28,936,000 1922 5,492,000	No dome
	Yielded the bulk of its total production during past eight years from deep sands, but is now on decline, with much of probable productive acreage drilled up. No salt or cap rock has been found, although more than a score of wells have been drilled more than 5000 feet.			
	WASHINGTON COUNTY			
enham	Elevation, gas	1929 76,246 Brenham Oil Company's Schurenberg 2, Oct. 8, 1915, 25 bbls at 1450 feet	119,980 1929 76,246	150
	Many small producers completed. Shallow oil discovered when Lamarque Oil Co. finished Hess 1 for 30 barrels daily at 270 feet on January 9, 1925.			
y Creek	Gas, geology (core tests)	Sun Oil Company's G. F. Grote 1, October, 1928 65 bbls. 25 gravity, 1154 feet	846,700 1929 841,100	2275
	Considerable production from 1000 to 1400 feet.			
	WHARTON COUNTY			
ing	Gas, sulphur waters	The Texas Company's Taylor 3, December 14, 1925, 10,000 bbls. at 3338 feet	3,359,000 1926 1,121,000	425
	Aside from limited production on flanks, there has been oil production from cap rock. Texas Gulf Sulphur Company is mining sulphur on large scale in recently completed plant, this being apparently one of best sulphur deposits yet discovered.			

Tabular History of Domes and Fields Discovered Without Aid of Geophysics—Louisiana Gulf Coast

SALT DOMES AND PROSPECTS TEXAS-LOUISIANA GULF COAST

With Complete Tabular History of Domes and Fields found with and without geophysical methods

Dome or Field	Indications leading to discovery	Discovery Well: date, initial production, depth	Production (Bbls.) Total to Jan. 1, 1930; peak year recovery	Top cap r (Appr
Avery Island	Elevation above surrounding marshes.	Rock salt discovered May 6, 1862, by John Marsh Avery.	Salt mined; no oil.	Salt a 35 ft
	One of the "Five Islands." Brine springs here used by Indians; rediscovered in 1791 by John Hayes; used for salt 1812-1817. First shaft sunk in 1867, and salt mining continued to now. Grave and sand overlie salt.			
Weeks Island	Elevated above marshes.	Rock salt discovered by F. F. Myles on July 25, 1897, at 276 ft.	Salt mined; no oil.	S 1
	One of the "Five Islands." Salt production by shaft began March, 1902, and has been practically continuous since.			
New Iberia	Elevation, gas escape.	La. Oil & Gas Co.'s Bernard 1, in Lot 7-12s-7e, Jan. 5, 1929, 75 bbls. 18 gravity, 2631 ft.	Only one oil well.	2,700
	About a dozen wells have been drilled, including two below 4000 feet by Houston Oil Co. Several tests reached salt. La. O. & G. Co. was owned by White et al.			
	JEFFERSON DAVIS PARISH			
Welsh	Elevation, gas seep.	Welsh Home Dev. & Oil Co.'s No. 2. blew out in 1902 at 1000 ft.	325,000 1910 54,000	No dome
	Drilling began in 1901. Production was heavy oil. Over 100 tests drilled, including several below 3000 feet.			
	ST. MARTIN PARISH			
Anse La Butte	Elevation, gas.	Heywood Bros.' Fee 1, 1902, depth 1350 ft.	626,000 1908 145,000	1,800
	Several deep tests drilled past several years by Yount-Lee Oil Co., including two below 6000 feet, but they reached salt and found no deep oil.			
Bayou Bouillon	Gas seeps.	O. W. Heywood et al's No. 2, bailed some oil in 1902 at 1089 ft.	304,000 1928 217,000	1,500
	There was no commercial production until Rycade Oil Corp. discovered flank sand oil, completing Atchafalaya Fee 2, on March 11, 1928, for 2500 barrels 30 gravity crude daily at 3044 feet.			
Hager (Section 28)	Gas and paraffin dirt.	Rock salt discovered in 1917 at 1250 ft by Simms, Hager et al's No. 1.	No oil production.	1,400
	First test, E. F. Simms, Lee Hager et al's No. 1, did not hit cap rock but found salt at 1250 feet. The Texas Company is operating here now, and has drilled three flank tests to depths ranging from 5900 to 6775 feet.			
	ST. MARY PARISH			
Belle Isle	Elevation above marsh.	Capt. A. F. Lucas found rock salt in first test at 373 ft, Dec., 1896.	Oil shows but no production.	Salt at 105 ft.
	One of the "Five Islands." Several tests found oil showings before and after going into salt; also high gas pressures. Only efforts to mine salt here were unsuccessful.			
Cote Blanche	Elevation above marsh.	Rock salt discovered by Southern Salt Synd. in 1921.	No oil shows.	Salt at 298 ft.
	No attempt has been made to mine the salt.			
	TERREBONNE PARISH			
Houma	Gas seeps.		Gas production	No dome

Black Bayou	7, 8, 18-12s-12w	Shell Pet. Corp.	Seismic	1927	Oil

First test, Roxana's (Shell's) Watkins 1, was abandoned in salt at 1700 feet May 4, 1928. Discovery oil well was Shell's Watkins 9, which came in April 29, 1929, swabbing 30 barrels of 19.6 gravity oil from cap rock at 981 feet; it later made a 35-barrel pumper. That well was on southwest side of the dome. First flank production from deep sand was from third completed oil well of the field, Watkins 6, on northeast side of dome. It came in flowing 475 barrels fluid, 25 per cent 28 gravity oil daily from sandy shale at 4727 feet. Aside from above two oil wells two other producers have been completed at Black Bayou by Shell: Watkins 10 for 45 barrels daily at 980 feet, and Watkins 12 for 700 barrels 25 gravity oil daily at 5240 feet and later for 600 barrels at 5265 feet. In addition to the four producers Shell has completed 10 non-productive tests, all on Watkins land. Deepest test of field was Watkins 12, mentioned above. Top of cap rock at crest of dome in Section 7 is found around 950 feet. Aside from oil, this dome has commercial sulphur possibilities. Sulphur rights are held by Freeport Sulphur Company, which has drilled several test wells and which is now drilling others. Shell is proceeding with drilling of its fifteenth and sixteenth wells. Oil production of this field in 1929 amounted to 26,350 barrels. Average daily output at middle of September, 1930, was around 400 barrels. This area sometimes called Gum Cove.

East Hackberry	24, 46, 36, 37-12s-10w	Calcasieu Oil Co.	Seismic	1926	Oil

First test, Caldwell 1, drilled jointly by Calcasieu Oil Company, Magnolia, and Union Sulphur Company, cratered. Second, Caldwell 2, on November 7, 1927, came in as discovery well, flowing 1000 barrels 22 gravity oil daily at 3998 feet. By the end of 1929 the field had produced 2,390,650 barrels of oil, and there had been 58 wells completed, including 24 dry holes an 34 oil wells with combined initial production of 40,301 barrels. During 1930 through August the field added 498,100 barrels production, and during those eight months there were 13 completions, including six dry holes and seven oil wells with combined initial of 8676 barrels. While the bulk of production has been from sand around 3900-4000 feet deep along south flank of dome, several producers have been completed in 1930 from 2700-foot sand in Section 24. All development following geophysical work has been around flanks of dome, and shallowest cap rock was around 3200 feet. Several wells were drilled below 5000 feet, deepest being Calcasieu Oil Co.'s Caldwell 5, in Section 38, abandoned in heaving shale at 6998 feet. This dome also sometimes called Kelso Bayou.

South Calcasieu Lake	1½ mi. due west of 36-13s-9w	La. Ld. & Ex. Co.	Seismic	1927	Salt

First test proved nothing. Second hit cap rock at 1490 feet and salt at 2345 feet. Three additional tests failed to develop production, although one went to 5885 feet. Sixth well now rigging up. Dome being developed now by The Texas Company. It is 14 miles south of East Hackberry.

Lake Misere	8-13s-5w	Pure Oil Co.	Seismic	1927	Undrilled

Importance is questionable.

Mallard Bay	32-12s-3w	Shell Pet. Corp.	Seismic	1928	One well: dry hole

Shell's A. Marceaux 1 in Section 32 was junked at 7225 feet in February, 1930. No interesting sands were found.

Cameron Meadows	21-14s-13w	Vacuum Oil Co.	Seismic	1928	Oil shows

Vacuum's Cameron Meadows 1, first test of prospect, recently reported drilling around 5200 feet, had numerous oil shows above 4000 feet. Before reaching that depth 15 drill stem tests had been made, and a good sample of 26 gravity oil was obtained from a 10-foot sand around 3750 feet.

IBERIA PARISH

Loreauville	26, 27, 34-11s-8e	Gulf Ref. Co.	Seismic	1926	Oil

Also called Fausse Pointe or Eagle Point. One of earliest tests, Union Sulphur Company's Schwing 1, came in as discovery well February 20, 1927, pumping 325 barrels, 30 per cent water, at 1150 feet. Only other producers out of about 20 tests drilled were two Gulf Refining Company wells pumping 50 and 100 barrels net oil respectively along with water from around 1175 feet. Gulf drilled most of the 20 wells, all before close of 1929. Top of salt has been found as high as 850 feet. Field produced 16,800 barrels in 1927, and 4000 barrels in 1928; none since that year. Several wells drilled below 3000 feet; deepest, Gulf's Broussard 1, was dry at 5125 feet.

Vermilion Bay	nw corner 16s-6e	La. Ld. & Ex. Co.	Seismic	1927	Salt

First test hit salt at 810 feet, second at 3700 feet, third abandoned at 4700 feet, fourth hit cap rock at 6000 feet and was abandoned in salt at 6125 feet, fifth was abandoned recently at 6500 feet. Dome is operated by The Texas Company.

IBERVILLE PARISH

Bayou Blue	68,73,74-9s-10e	Calcasieu Oil Co.	Seismic	1926	Oil

First test, Union Sulphur Company's Schwing 1, was abandoned February 10, 1928, at 2850 feet; it had no showings. Second test of area, Standard of Louisiana's Wilbert 1, proved the dome when it hit salt at 4475 feet in December, 1928. Fifth completed test, Standard's Wilbert 3 in Section 74, was discovery well. It came in September 18, 1929, flowing 15 barrels 18.5 gravity pipe line oil daily at 1905-1925 feet. It was later deepened and flowed for a short time at rate of 350 barrels daily at 1950-80 feet. By now four low gravity oil producers have been completed at depths of 1900 to 2300 feet on north side of dome, and in addition there

pleted 25 tests and Union Sulphur Company five. First we
was drilled, Gulf's Stark 1 in Section 71, proved dome, hitti
rock in October, 1927, at 1300 feet. Shallowest cap rock ha
around 1100 feet. Practically all drilling has been on top of
only two tests having been drilled below 3000 feet.

Leesville	21,28,27-21s-22e	La. Ld. & Ex. Co.	Seismic	19

Also called Bayou LaFourche. First test, The Texas Com
La. Ld. & Explo. Co. Leesville 1, had oil show aroun
feet, went to 5600 feet, sidetracked at 2600 feet, and was re
drilling below 3200 feet in new hole.

Wisner	19-23s-23e	Gulf Refining Co.	Seismic	19

Gulf's City of New Orleans 1 was abandoned in shale a
feet about April 15, 1930. No important showings were re
This prospect is also called Marchand, but the discoverer
lists it as Wisner.

PLAQUEMINES PARISH

Potash	SE cor 18s-27e	Gulf & Humble	Seismic	19

Also called Home Place. Extends across Mississippi Ri
immediate vicinity of Butler, which is reported to be along
flank of prospective dome.

Lake Hermitage	1-18s-25e	Gulf-Humble	Seismic	19

Lake Grande Ecaille	1-20s-26e	HumbleO.&R. Co.	Seismic	19

This dome has been known as Bay Long, but Humble us
other name. Humble has completed two tests, is drilli
third and building foundation for fourth. First complete
Cockrell-Moran 1, had oil shows, but was abandoned afte
ing a few feet into salt which was topped at 1750 feet. C
tion date was about May 1, 1930. Second completed test
Washington 1, showed some heavy oil from sand aroun
feet after bailing, but did not produce commercially, ar
finally deepened to 5450 feet, where it was abandoned
August 10, 1930. Foundation is now being construct
Cockrell-Moran 2, while No. 3 will be sidetracked if po
having encountered cap rock cavity around 1500 feet.

Rose	26, 27-21s-30e	Gulf Ref. Co.	Seismic	19

This prospect is also sometimes called Spanish Pass bei
south of that pass, or Venice, being five miles southwest
town. Gulf made location for Morris & Rose 1, but the te
not drilled because of legal controversy. It was in sect
Gulf is now moving onto location of Buras Levee Boar
Section 27. Gulf calls this "Rose dome" prospect; henc
name is herewith adopted.

Quarantine	center of east edge of 21s-32e	Gulf-Humble	Seismic	19

Located in bay just south of Main Pass.

Garden Island Bay	107-23s-32e 39-23s-33e	McCollum Explo. Co.	Seismic	19

McCollum found dome for Acme Land & Fur Company,
turned it to The Texas Company for development. The
has completed three tests, and is drilling fourth, Garden
Bay 4. First well had oil show around 1675 feet and later
existence of dome, going through cap rock, hitting salt
2000 feet, and drilling into salt about 100 feet. Second te
abandoned following gas blowout at 800 feet. Third ha
oil shows just above cap rock, which was topped at 1750

ST. BERNARD PARISH

Olevier	23-14s-14e	Gulf Ref. Co.	Seismic	19

Also called Lake Lery, being few miles north of that lake.
as reported is about one mile south of Olevier.

ST. CHARLES PARISH

Lake Netherlands	33, 34-14s-22e	Gulf Ref. Co.	Seismic	19

St. Rose	SE cor 12s-9e	Shell Pet. Corp.	Seismic	19

Located about one mile north of town of St. Rose. Som
called Fallon prospect, being a few miles south of that t

ST. LANDRY PARISH

Port Barre	20, 21, 4-6s-5e	Gulf Ref. Co.	Seismic	19

First test drilled, The Texas Company's Botney Bay Fee
in February 23, 1929, as discovery well, flowing 23 gravity
rate of 800 barrels daily at 3765 feet. It quit flowing i
time, however, and was later abandoned in salt. Includi
discovery well, six tests at Port Barre have been compl
failures, all being abandoned in salt, which has been fo
high as 3850 feet. In the meantime, however, 12 wells hav
completed as commercial producers at depths of 3350
feet. Alex Rice's Futral 1 in section 20 holds depth rec
field. It was abandoned in salt at 4600 feet. Pure Oil Com
Perkins 1 in section 21 hit salt at 3825 feet. Other 16 com
tests include eight each by Gulf and The Texas Company.
Hoskins A-3 is due to be nineteenth completion soon. Port
production in 1929 was 39,150 barrels. During the firs
months of 1930 the field produced 635,000 barrels.

Eunice	14-6s-2e	Elbof Explorations	Torsion	19

Elbof Explorations, Inc., drilled H. Smith 1 to 4315 feet w
finding promising shows, and it was abandoned about Janu
1930, at that depth.

...ive. First well that
...ed dome, hitting cap
...t cap rock has been
...been on top of dome,
...0 feet.

Seismic 1928 Oil show

...he Texas Company's
show around 5300
...et, and was recently

Seismic 1928 No shows in deep test

...ed in shale at 6375
...vings were reported.
...the discoverer, Gulf,

...H

Seismic 1928 Undrilled

...Mississippi River in
...ed to be along south

Seismic 1928 .Undrilled

Seismic 1928 Salt

...ut Humble uses the
...ests, is drilling the
...First completed test,
...bandoned after drill-
1750 feet. Comple-
...ompleted test, Lake
...n sand around 5150
...mmercially, and was
...s abandoned about
...ng constructed for
...etracked if possible,
1500 feet.

Seismic 1928 First test started

...ish Pass being just
...es southwest of that
...e 1, but the test was
...t was in section 26.
...s Levee Board 1 in
...rospect; hence that

Seismic 1928 Undrilled

Seismic 1928 Salt

...ur Company, which
...opment. The latter
...urth, Garden Island
...eet and later proved
hitting salt around
...t. Second test was
...t. Third had good
...pped at 1750 feet.

...I

Seismic 1928 Undrilled

of that lake. Dome
...er.

...I

Seismic 1928 Undrilled

Seismic 1928 Undrilled

...t. Rose. Sometimes
...uth of that town.

Seismic 1926 Oil

...ey Bay Fee 1, came
...ng 23 gravity oil at
...it flowing in short
...salt. Including that
been completed as
has been found as
, 12 wells have been
...hs of 3350 to 3425
...lds depth record of
Pure Oil Company's
Other 16 completed
...as Company. Gulf's
...on soon. Port Barre
...ring the first eight
...rrels.

Torsion 1928 One test, no shows

...o 4315 feet without
...d about January 20,

All development is by The Texas Company. First test, Four Isle Bayou 1, proved existence of the dome, encountering cap rock at 550 feet and salt at 1375 feet. It was abandoned in salt at 1425 feet about July 25, 1929. Second well was abandoned in salt at 4700 feet, and third in cap rock at 3775 feet. Fourth is drilling.

Bay St. Elaine 17-22s-18e La. Ld. & Ex. Co. Seismic 1928 Gas

First test, The Texas Company's Bay St. Elaine 1, Section 17, came in as 20,000,000-foot gas well at 680 feet on May 25, 1929. Second test was also completed as gas well at 800 feet. Third logged salt from 2350 to 2400 feet. Fourth swabbed some 27 gravity oil at 5175 feet, but was later abandoned in heaving shale at 5600 feet. Fifth test is drilling. All development by The Texas Company. This dome was formerly called Bay Coon Road.

Lake Pelto 8, 9-23s-18e La. Ld. & Ex. Co. Seismic 1928 Oil

First test, The Texas Company's Lake Pelto, B-1 in Section 8, came in July 15, 1929, as discovery well, flowing 400 barrels of 17 gravity oil daily at 1250-85 feet. This dome is being developed altogether by The Texas Company. Second test hit cap rock at 2850 feet and logged salt from 2850 to 3025 feet, when it was abandoned. Third well was abandoned in caprock which was topped at 4400 feet. Another test is scheduled to be started soon.

Lake Barre 29, 30, 31, 32-21s-20e La. Ld. & Ex. Co. Seismic 1928 Oil

First test, The Texas Company's Lake Barre A-1, proved the dome, hitting salt at 850 feet about May 1, 1929. All development is in the hands of that company. Second test, Lake Barre A-2, was discovery well. It came in September 20, 1929, flowing 1800 barrels of 27.5 gravity pipe line oil daily from sand at 3835-3850 feet. Two additional wells of similar depth and initial production have been completed. Fifth test has not been completed. It was recently reported in cap rock around 2775 feet. The discovery well produced 42,850 barrels during 1929. The other two producers were not completed until after the opening of 1930.

Caillou Island 18, 19-23s-20e La. Ld. & Ex. Co. Seismic 1928 Oil

Being developed by The Texas Company. First test proved the dome. It was Caillou Island A-1, which found anhydrite around 2950 feet. Second well, Caillou Island 2, was the discovery well of the field. It came in January 24, 1930, flowing 1100 barrels 28 gravity pipe line oil daily at 3239 feet. It later quit producing, however, and was abandoned in cap rock at 3290 feet. Third test was abandoned in cap rock at about the same depth, and drilling has not yet been started on the next test.

Four League Bay 12-21s-12e Freeport Sulphur Co. Seismic 1930 One test no shows

Freeport Sulphur Company's Nelson 1 was abandoned at total depth of 6025 feet in shale about August 1, 1930. No interesting showings had been reported. This prospect is also called Pointe au Fer.

VERMILION PARISH

White Lake 8, 9, 16, 17-15s-1e La. Ld.-Shell-Humble Seismic 1929 Undrilled

Gueydan 11s-1w Pure Oil Co. Seismic 1929 Undrilled

Also called Bayou Queue D' Tortue. Located three miles north of Gueydan. Pure Oil Company took leases from A. Kaplan.

Abbeville 68-12s-3e Atlantic O. P. Co. Torsion 1929 One test no shows

Only test of area, Atlantic Oil Producing Company's Boudoin 1, was abandoned in November, 1929, in sticky shale at 5017 feet.

Tabular History of Domes and Fields Discovered Without Aid of Geophysics—Texas Gulf Coast

Dome or field	Indications leading to discovery	Discovery well: date, initial production, depth	Production (Bbls.) Total to Jan. 1, 1930 Peak year output	Top of cap rock (Approx.)
AUSTIN COUNTY				
Raccoon Bend	Gas, paraffin dirt, broken surface	Humble O. & R. Company-Valley Oil Corporation's Gotosky 2, Jan. 15, 1928, 500 bbls. 23 gravity, 3259 feet	2,203,000 1929 2,104,000	No dome
Although Humble's Gotosky 2 discovered the deep oil which put field on commercial basis, gas was first found in Valley Oil Corporation's Thompson 1 at 1000 feet; it however, was not completed, and Humble-Valley's Walton 1 was first completed 1000-foot gas well, coming in February 1, 1927. Several succeeding tests also yielded as much as 35 barrels 17 gravity oil daily from that 1000-foot sand. Detailed feature article on Raccoon Bend appeared in The Oil Weekly, March 15, 1929. This field is apparently not a salt dome, although located along interior of coastal plain.				
BRAZORIA COUNTY				
Damon Mound	Elevation, gas, mineral waters	Texas Exploration Company's Wisdom 1, Nov. 15, 1915, 100 bbls. 1953 feet	7,554,000 1920 1,259,000	75

HARDIN COUNTY

Saratoga — Broken surface, mineral waters and gas — Hooks et al, Hooks 1, 1901, 500 bbls. at 995 ft. — 190

Came in shortly after Spindle Top boom. Has g since 1905 to less than 350,000 barrels per ye flank sand oil to revive it as at Spindle Top, Dayton, and other domes.

Sour Lake — Broken surface, gas, and mineral waters — Sour Lake Oil Co.'s Fee 2,, July 18, 1902, 10,000 bbls. at 375 ft. — 190

Produced originally from cap rock in large qu revived in 1913 by discovery of deep flank sands.

Batson — Gas, paraffin dirt — Paraffin Oil Co.'s Fee 1, Oct. 31, 1903, 600 bbls. at 790 ft. — 190

First well drilled was productive. Came in sho Top discovery. In eight years it had yielded from shallow wells, and since then annual pro less than 1,000,000 barrels, no deep sands havin

HARRIS COUNTY

Humble — Elevation, gas, paraffin dirt — D. R. Beaty 1, Jan. 9, 1905, 5,000 bbls. at 700 ft. — 190

Field produced 43,000,000 barrels during 1905-19 and sands 900-1800 feet deep on top of dome, largest in Gulf Coast. It yielded 57,000,000 barr and Oligocene flank sands at 2000-3100 feet duri 1929 oil was found from 4200 to 5600 feet on a covery for year exceeded 3,000,000 barrels, as barrels in 1928. Detailed article on field appe Weekly, January 17, 1930.

Goose Creek — Broken surface, gas seepage — Rucker et al's Gaillard 2, 1906, 800 bbls. at 1600 ft. — 191

No salt or cap rock found although wells drille center of field and to 7000 feet on edges. Prod decline since 1918.

Pierce Junc't — Elevation, gas, paraffin dirt — Gulf Prod. Co.'s Taylor 2, Feb. 19, 1921, 75 bbls. at 3525 ft. — 192

Producion has been on a gradual increase during

Hockley — Broken surface, — Texas Expl. Co.'s Warren 13, Oct. 15, 1923, 25 bbls. 26 gravity, 1820 ft. — No

Discovery well on northeast side of dome. Warren 15 was a 75-barrel well at 2090 feet, side. But field has never produced commerciall R. Company has been drilling for several year well, on Warren ranch. No. 7, deepest test, wa 15, 1930, in shale at 7060 feet. Patillo Higgins 1906 by drilling to cap rock at 725 feet. This is coastal domes.

JEFFERSON COUNTY

Spindle Top — Elevation, gas, mineral waters — J. F. Lucas' Gladys 1, Jan. 10 ,1901, 84,000 bbls. at 1139 ft. — 19

Shallow wells were drilled as early as 1893. 33,000,000 barrels in four years, 1901-1904; in 1,600,000 barrels, and declined gradually, with 500,000 barrels yearly during 1915-1925, produ cap rock and shallow sands. Field was revi 1925, when Yount-Lee Oil Company's McFad 4600-bbl. well at 2779 feet, starting another period, exceeding early boom, when peak of was set in 1902. Field produced 58,898,000 barr 1926-1929.

Big Hill — Elevation, gas — Houston Oil Co.'s Pipkin-Davis 1, Mar. 29, 1923, 35 bbls. at 1735 ft.

All oil production was during 1923-1924. In a wells have been completed. First well of do J. M. Guffey Company in 1901 on southeast sid at 370 feet.

LIBERTY COUNTY

North Dayton — Elevation, gas — Paraffin Oil Company's Fee 3, September, 1905, 5,000 bbls. at 800 feet — 19

All production was from cap rock and shallow dome until Harrison Oil Co.'s Quintette 1 on s deep flank sand production, coming in July barrels 36 gravity oil daily at 4135 feet. Other south flank.

1, proved existence of the dome, encountering cap 0 feet and salt at 1375 feet. It was abandoned in salt t about July 25, 1929. Second well was abandoned in 0 feet, and third in cap rock at 3775 feet. Fourth is

17-22s-18e La. Ld. & Ex. Co. Seismic 1928 Gas

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9, 30, 31, 32-21s-20e La. Ld. & Ex. Co. Seismic 1928 Oil

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19-23s-20e La. Ld. & Ex. Co. Seismic 1928 Oil

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2-21s-12e Freeport Sulphur Co. Seismic 1930 One test no shows

lphur Company's Nelson 1 was abandoned at total 25 feet in shale about August 1, 1930. No interesting ad been reported. This prospect is also called Pointe

VERMILION PARISH

8, 9, 16, 17-15s-1e	La. Ld.-Shell-Humble	Seismic	1929	Undrilled
11s-1w	Pure Oil Co.	Seismic	1929	Undrilled

Bayou Queue D' Tortue. Located three miles north . Pure Oil Company took leases from A. Kaplan.

8-12s-3e	Atlantic O. P. Co.	Torsion	1929	One test no shows

f area, Atlantic Oil Producing Company's Boudoin 1, ned in November, 1929, in sticky shale at 5017 feet.

tory of Domes and Fields Discovered With- id of Geophysics—Texas Gulf Coast

Indications leading to discovery	Discovery well: date, initial production, depth	Production (Bbls.) Total to Jan. 1, 1930 Peak year output	Top of cap rock (Approx.)
AUSTIN COUNTY			
paraffin broken re	Humble O. & R. Company-Valley Oil Corporation's Gotosky 2, Jan. 15, 1928, 500 bbls. 23 gravity, 3259 feet	2,203,000 1929 2,104,000	No dome

umble's Gotosky 2 discovered the deep oil which put mmercial basis, gas was first found in Valley Oil 's Thompson 1 at 1000 feet; it however, was not and Humble-Valley's Walton 1 was first completed as well, coming in February 1, 1927. Several suc- tests also yielded as much as 35 barrels 17 gravity om that 1000-foot sand. Detailed feature article on end appeared in The Oil Weekly, March 15, 1929. s apparently not a salt dome, although located along coastal plain.

BRAZORIA COUNTY				
ation, gas, eral waters	Texas Exploration Company's Wisdom 1, Nov. 15, 1915, 100 bbls. 1953 feet	7,554,000 1920 1,259,000		75

HARDIN COUNTY

Saratoga	Broken surface, mineral waters and gas	Hooks et al, Hooks 1, 1901, 500 bbls. at 995 ft.	25,533,000 1905 2,922,000	1500

Came in shortly after Spindle Top boom. Has gradually declined since 1905 to less than 350,000 barrels per year, with no deep flank sand oil to revive it as at Spindle Top, Humble, North Dayton, and other domes.

Sour Lake	Broken surface, gas, and mineral waters	Sour Lake Oil Co.'s Fee 2,, July 18, 1902, 10,000 bbls. at 375 ft.	73,340,000 1903 8,848,000	800

Produced originally from cap rock in large quantities, and was revived in 1913 by discovery of deep flank sands.

Batson	Gas, paraffin dirt	Paraffin Oil Co.'s Fee 1, Oct. 31, 1903, 600 bbls. at 790 ft.	34,779,000 1904 10,905,000	1080

First well drilled was productive. Came in shortly after Spindle Top discovery. In eight years it had yielded 25,000,000 barrels from shallow wells, and since then annual production has been less than 1,000,000 barrels, no deep sands having been found.

HARRIS COUNTY

Humble	Elevation, gas, paraffin dirt	D. R. Beaty 1, Jan. 9, 1905, 5,000 bbls. at 700 ft.	103,150,000 1905 18,066,000	1000

Field produced 43,000,000 barrels during 1905-1915 from cap rock and sands 900-1800 feet deep on top of dome, which is one of largest in Gulf Coast. It yielded 57,000,000 barrels from Miocene and Oligocene flank sands at 2000-3100 feet during 1915-1928. In 1929 oil was found from 4200 to 5600 feet on all flanks, and recovery for year exceeded 3,000,000 barrels, as against 700,000 barrels in 1928. Detailed article on field appeared in The Oil Weekly, January 17, 1930.

Goose Creek	Broken surface, gas seepage	Rucker et al's Gaillard 2, 1906, 800 bbls. at 1600 ft.	66,397,000 1918 9,419,000	No dome

No salt or cap rock found although wells drilled to 4500 feet in center of field and to 7000 feet on edges. Production on gradual decline since 1918.

Pierce Junc't	Elevation, gas, paraffin dirt	Gulf Prod. Co.'s Taylor 2, Feb. 19, 1921, 75 bbls. at 3525 ft.	16,421,000 1929 5,096,000	700

Producion has been on a gradual increase during past three years.

Hockley	Broken surface,	Texas Expl. Co.'s Warren 13, Oct. 15, 1923, 25 bbls. 26 gravity, 1820 ft.	No commercial oil or gas	115

Discovery well on northeast side of dome. Same company's Warren 15 was a 75-barrel well at 2090 feet, also on northeast side. But field has never produced commercially. Humble O. & R. Company has been drilling for several years, now on eighth well, on Warren ranch. No. 7, deepest test, was abandoned July 15, 1930, in shale at 7060 feet. Patillo Higgins proved dome in 1906 by drilling to cap rock at 725 feet. This is one of the largest coastal domes.

JEFFERSON COUNTY

Spindle Top	Elevation, gas, mineral waters	J. F. Lucas' Gladys 1, Jan. 10 ,1901, 84,000 bbls. at 1139 ft.	107,679,000 1927 21,584,000	700

Shallow wells were drilled as early as 1893. Field produced 33,000,000 barrels in four years, 1901-1904; in 1905 it yielded 1,600,000 barrels, and declined gradually, with output less than 500,000 barrels yearly during 1915-1925, production being from cap rock and shallow sands. Field was revived in December, 1925, when Yount-Lee Oil Company's McFadden 3 came in as 4600-bbl. well at 2779 feet, starting another flush production period, exceeding early boom, when peak of 17,421,000 barrels was set in 1902. Field produced 58,898,000 barrels in four years, 1926-1929.

Big Hill	Elevation, gas	Houston Oil Co.'s Pipkin-Davis 1, Mar. 29, 1923, 35 bbls. at 1735 ft.	12,064	200

All oil production was during 1923-1924. In addition some gas wells have been completed. First well of dome was drilled by J. M. Guffey Company in 1901 on southeast side hitting cap rock at 370 feet.

LIBERTY COUNTY

North Dayton	Elevation, gas	Paraffin Oil Company's Fee 3, September, 1905, 5,000 bbls. at 800 feet	959,000 1928 210,000	600

All production was from cap rock and shallow sands on top of dome until Harrison Oil Co.'s Quintette 1 on south flank opened deep flank sand production, coming in July 15, 1927, for 400 barrels 36 gravity oil daily at 4135 feet. Other deep wells now on south flank.

Aside from production ing sulphur apparently

Tabular His
out Aid

Dome or Field	Indi ing
Evangeline	Elev gas

In twelve y since then t below 500,0

Vinton

Vinton has tion fluctua history.

Edgerly Gas para

Commercial graded as n Daniel's Ecl of dome, co

Lockport Gas

Production 5000 feet in

Sulphur Petr see

Sulphur wa Sulphur Co veloped in t was discont

Hackberry Elev gas

Numerous d several year not justifie

Sweet Lake Gas

Several sand less than a

Pine Prairie Outc ston rock

Over 30 wel but only fou

Jefferson Island Elev

This is one During past phur possibi

		December 14, 1925, 10,000 bbls. at 3338 feet		

Aside from limited production on flanks, there has been oil production from cap rock. Texas Gulf Sulphur Company is mining sulphur on large scale in recently completed plant, this being apparently one of best sulphur deposits yet discovered.

Tabular History of Domes and Fields Discovered Without Aid of Geophysics—Louisiana Gulf Coast

or Field	Indications leading to discovery	Discovery Well: date, initial production, depth	Production (Bbls.) Total to Jan. 1, 1930; peak year recovery	Top of cap rock (Apprx.)
		ACADIA PARISH		
eline	Elevation, gas escapes.	Heywood Bros.' Jennings 1, August, 1901, no gauge, 1882 ft.	40,239,000 1906 9,025,000	2,000
	In twelve years, 1901-1812, field produced 34,000,000 barrels oil; since then the yearly recovery has been consistently around or below 500,000 barrels.			
		CALCASIEU PARISH		
		Sabine Oil Co.'s No. 1, June 25, 1910, 2230 ft.	32,691,000 1925 2,535,000	725
	Vinton has been remarkably consistent salt dome field, production fluctuating very little from year to year in field's entire history.			
y	Gas escapes. paraffin dirt.	Bright Oil Co.'s Bright 1, 1911, 250 bbls. 27 gravity, 1500 ft.	7,732,000 1915 1,403,000	Salt at 3990 ft.
	Commercial production began in 1914. For years field was regraded as non-dome type, but September 15, 1927, Ellis & McDaniel's Eckert 1 on northeast edge of field established presence of dome, coring five feet of salt from 3991 to 3996 feet.			
ort	Gas escapes.	Vacuum Oil Co.'s Miller 1, September 9, 1924 3875 ft	6,517,000 1927, 2,014,000	No dome
	Production is from nearly a dozen sands, ranging to more than 5000 feet in depth.			
r	Petroleum seepage.	Union Sulphur Co.'s Fee 719, December 24, 1926, 150 bbls. at 3350 ft.	2,260,000 1929 1,328,000	375
	Sulphur was mined commercially from 1903 to 1925 by Union Sulphur Company, using Herman Frasch process, which was developed in this field. Oil was not sought until sulphur mining was discontinued.			
		CAMERON PARISH		
erry	Elevation, gas seepage.	Cameron Oil Co.-Rycade Oil Corp.'s Duhon 1, Dec. 1, 1928, 200 bbls. 22 gravity, 3151 ft.	680,000 1929 674,000	1,650
	Numerous deep tests have been drilled on flanks of dome in past several years. Although production has been established, it has not justified costs of extensive drilling.			
Lake	Gas seepages.	Pure Oil Co.'s Sweet Lake 1, October 11, 1926, blew out and cratered at 4600 ft.	754,000 1928 659,000	No dome
	Several sands are productive between 5000 feet and 6800 feet in less than a dozen completed wells.			
		EVANGELINE PARISH		
Prairie	Outcrop of limestone of cap rock.	Myles Mineral Co.'s No. 8, 1912, 1000 bbls, at 1300 ft.	25,000	Exposed at surface
	Over 30 wells have been drilled, including three below 3000 feet, but only four were producers, and they were small wells.			
		IBERIA PARISH		
on	Elevation	Rock salt found in 1895 at 334 ft. by Joseph Jefferson, noted actor	Salt mined; no oil.	Salt at 100 ft.
	This is one of the "Five Islands." Site of salt mining since 1923. During past year half dozen wells have been drilled testing sulphur possibilities of cap rock.			
		in first test at 373 ft, Dec., 1896.		
	One of the "Five Islands." Several tests found oil showings before and after going into salt; also high gas pressures. Only efforts to mine salt here were unsuccessful.			
Cote Blanche	Elevation above marsh.	Rock salt discovered by Southern Salt Synd. in 1921.	No oil shows.	Salt at 298 ft.
	No attempt has been made to mine the salt.			
		TERREBONNE PARISH		
Houma	Gas seeps.		Gas production	No dome

Tabular History of Domes and Fields Discovered Without Aid of Geophysics—Southwest Texas

(Beyond regular salt dome region: Southwest of Wharton and Matagorda Counties.)

Dome or field	County	Production	Salt Dome
Pettus	Bee	Oil and Gas	No
Production is from several faults. First gas well was Dr. W. E. Hewitt's Ray 1, completed late in 1928 at 2875 feet with rock pressure of 1200 pounds. Discovery oil well was Humble Oil & Refining Company's McKinney 1, which came in flowing 525 barrels 45 gravity oil daily on February 1, 1930. Detailed paper on this field appeared in The Oil Weekly August 8, 1930.			
Gyp Hill	Brooks	None	Yes
Palangana	Duval	Sulphur	Yes
Sulphur mining operations carried on by Duval Texas Sulphur Company.			
Piedras Pintas	Duval	Oil	Yes
Humble Oil & Refining Company has obtained some oil production here, but not in particularly encouraging quantity.			
Edna	Jackson	Gas	No
Field has yielded commercial gas wells, but efforts for oil discovery have been unsuccessful.			
Kingsville	Kleberg	Oil	No
Although some fair wells have been brought in, they have been short-lived. Development largely by Humble Oil & Refining Company.			
Lucas	Live Oak	Gas	No
Fair commercial gas field, with over 25 wells, operated by Houston Oil Company. Recent deep well on northeast edge of gas field revealed good oil sand at 5250 feet on drill stem test, and oil production closely resembling that at Pettus is anticipated. Gas wells are 2000 feet deep, with open flow capacity around 40,000,000 feet daily.			
Three Rivers	Live Oak	Gas	No
This field, seven miles east of Three Rivers, has about a dozen gas wells along Sulphur Creek, 300 feet deep or less, with open flow capacity of about 2,000,000 feet daily.			
Calliham	McMullen	Oil	No
Has around 100 barrels daily production from approximately 20 wells, the oil being from base of Fayette at about 700 feet. One well eight years old is yielding 12 barrels daily.			
Saxet	Nueces	Gas and Oil	No
Principally a gas field, but oil was discovered July 25, 1930, when Saxet Oil Company's Dunn 6 came in flowing about 500 barrels 24 gravity oil daily at 4386 feet. It is still yielding around 75 barrels net oil daily, although a large amount of salt water intrudes			
Agua Dulce	Nueces	Gas	No
In western edge of county, gas was discovered late in 1928, and about a dozen gas wells have been completed.			
Refugio	Refugio	Oil and Gas	No
Has been important gas field, with numerous producing horizons from 1500 to 3700 feet. Texas Gas Company's Clint Heard 1 came in July 28, 1928, as discovery oil well, flowing 700 barrels 26 gravity oil daily at 3702 feet. Since then oil sands have also been found at 5500 feet, at 5800 feet, and at 6500 feet. Detailed article on field appeared in The Oil Weekly May 2, 1930.			
White Point	San Patricio	Gas	No
Commercial gas field, with wells having open flow capacity around 40,000,000 cubic feet daily. There are three gas sands, at 1950, 2350 and 2560 feet.			

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THE OIL WEEKLY

VOLUME 59, NO. 4 OCTOBER 10, 1930

Proration Plan *Gives* Oklahoma City 130,000 Barrels Daily

By GRADY TRIPLETT

TULSA.—Oklahoma oil producers October 3 approved a program of state proration which will give the Oklahoma City field pipe line output of 130,000 barrels daily for the remainder of the year. The schedule also will bring proration to all leases whose daily output is in excess of five barrels per well. It is chiefly from this proration of a part of the settled production of the state that the additional outlet for Oklahoma City oil will come.

The meeting followed the completion of the report of the proration committee of the Mid-Continent Oil & Gas Association September 30. This report went before a committee of the Oklahoma City field October 1 and then came back to a general meeting in Tulsa October 3. While there was no dissension as to a general plan of proration, several oil producers did seek specific information concerning special problems which might arise in carrying out the provisions which will bring proration to the wells of the settled fields of the state. These were apparently so well answered that no vote was cast against the schedule. Three concerns declined to vote on the question.

Provisions of the report adopted by the producers will be put into a petition which will come before the corporation commission October 10. Present proration schedules were extended for 10 days from October 1, so the new schedule could be presented then.

After dealing with the gravity of the situation which now faces oil producers in Oklahoma, the report set up the following estimate of potential production for the state for the final quarter of the year:

October:	
Oklahoma City	2,800,000
Remainder of state	838,000
Total	3,638,000
November:	
Oklahoma City	3,319,000
Remainder of state	824,000
Total	4,143,000
December:	
Oklahoma City	3,446,000
Remainder of state	798,000
Total	4,244,000

In regard to these high totals the report made this explanation:

"It must be conceded that even though these theoretical potentials may be discounted in order to find what might be termed the actual potential, nevertheless the aggregate potential production of crude oil in the state exceeds by far all transportation and marketing facilities and reasonable market demands, and that unless production is curtailed every form of waste prohibited by our statutes will be committed including the flowing of oil into open earthen storage . . . "

Market Demand Analyzed

That phase dealing with a market demand for Oklahoma oil in the final quarter of the year read:

"Notwithstanding the seasonal decline in consumption and continued curtailment of refinery runs during the last quarter of the year the committee with the cooperation of the purchasing companies is able to compute a probable market outlet of 550,000 barrels per day for the state as a whole during the month of October with a probable reduction in demand to 545,000 barrels in November and 535,000 barrels in December."

The future of Oklahoma City was put as follows:

"The committee believes that the Oklahoma City pool may reach its peak of potentail production by the first of January, 1931, and will thereafter enter upon at least a slow decline, which fact will lessen, to some extent, our difficulties."

Something new for petitions for the corporation commission to consider is a provision regarding the production from a successful wildcat well. The report was to the effect that no legal grounds existed for the prevention of wildcat wells which were as unnecessary in many instances and responsible in a large measure for the present plight of the oil producer. This recommendation concerning wildcat wells was incorporated:

"The committee recommends that all wildcat wells hereafter drilled be limited to 50 barrels per day after one day of open flow for test until otherwise ordered by the commission, and that no discovery rights of producing to capacity until other wells are drilled be recognized. Recognition of discovery rights, in the present situation, would

be the very antithesis of conversation, and the drilling of such new wells should be discouraged."

Explains Market Situation

After the report of the committee had been read, C. C. Herndon, chairman, made a thorough explanation both of the market situation and the need for further curtailment and explained the workings of the schedule as offered. He said he believed it essential to allocate more output for Oklahoma City as the potential output of that pool had now reached the point where to hold the present restriction of 85,000 barrels a day, would be physically impossible. The field is now allowed five per cent of potential but is having only 3½. Mr. Herndon said oil had accumulated on some leases to the point where they faced shut down.

Ratification of the report was moved by E. B. Reeser and seconded by William N. Davis. On invitation from the chairman, C. B. Ames, general counsel of The Texas Company, paid tribute to the efforts to curtail output in Oklahoma as well as in other states.

Wirt Franklin, chairman of the operators' committee of the Oklahoma City field, said he believed the report should be adopted, since he did not believe any member of the committe could approve all sections of it. "It is the result of compromise," he added. He said he thought purchasing companies should be informed that Oklahoma was the only one of the three major oil producing states which had kept over the year, its output within the figures set by the committee of three which reported to the secretary of Commerce.

When W. S. Fitzpatrick, chairman of the board of Prairie Oil and Gas Company was asked to give his opinion, he finished by saying that he would be in favor of asking the corporation commission to name Mr. Herndon an "absolute czar over the petroleum industry of the state."

The question of the importation of oil from South America came up when D. D. Morgan of the firm of Morgan & Flynn, spoke. He was followed by O. F. Flynn of the same company. They proposed that some action be taken to let the importers of oil know that Oklahoma producers do not consider it a fair thing to curtail production in domestic fields while imports are not restricted.

Chairman Herndon answered to the effect that the proposition was beyond the scope of the activities of his committee which must deal with proration in Oklahoma.

A committee from southern Oklahoma was present. Some admitted that they had come intending to vote against the report but had been convinced of its fairness after hearing it explained. Roy Johnson and H. B. Fell were two of them. They said their section of the state had some peculiar conditions which might result in the ruining of small wells under proration.

When informed that any such cases could be corrected through the local committee and the umpire and that any producer had the privilege of going before the corporation commission to seek a change in the order, they seemed satisfied.

That part of the report dealing with classifications, schedules and the methods by which the schedule shall be applied follows:

Bases of Classification

"*Class A Pools*: The committee recommend that all oil pools of the state not now being prorated under orders of the commission be put in a separate classification and designated 'Class A' and that as to all leases in said pools where the per well per day average is in excess of five barrels, the excess over five barrels per well per day be curtailed 50 per cent. This new departure is rendered necessary by the readjustment of purchases and in order to avoid discrimination as between the various pools of the state during this emergency. With the market outlet from the said 'Class A' pools thus being decreased, their potential production will exceed the market outlet therefrom and it will be necessary that some curtailment be applied. Furthermore, it has been called to the attention of the committee that in many of the so-called older pools, there are comparatively large wells which have never been curtailed or prorated but which have enjoyed 100 per cent production throughout the years that other pools have been drastically curtailed, and that wells in these older regions have actually been promoted on the representation that they could be drilled and produced to capacity without fear of curtailment because they were situated in or adjacent to said unprorated fields.

"The manner of the application of curtailment to the 'Class A' pools as herein suggested will be to exempt from proration all leases where the per well average is five barrels or less and to also grant to all wells in the 'Class A' pools an exemption of five barrels per well per day, but in the case of those leases where the average per well exceeds five barrels per day, the excess only shall be prorated and the percentage of curtailment shall be 50 per cnt so that, for example, an 80-acre lease with eight wells thereon which is making a total of 100 barrels per day will be prorated but an exemption of 40 barrels will be allowed and the remaining 60 barrels will be cut to 30 barrels, so that the total allowable production from the lease as a whole will be 70 barrels. In this manner the committee estimates that the production from the hitherto unprorated fields will be decreased approximately 50,000 barrels per day, and that this curtailment will fall upon approximately 10,000 wells out of a total of approximately 60,000 wells hitherto not prorated, and that of said 60,000 wells, the 50,000 smallest wells will remain uncurtailed under this plan.

"*Class B Pools*: The following semi-flush pools shall be placed in "Class B," to-wit: Allen (Willcox), Allen (Cromwell), Bowlegs, Earlsboro (proper), Earlsboro Townsite, Little River, East Little River, Marshall-Lovell, Maud, Mission, Sasakwa, Searight, Seminole, East Seminole and St. Louis.

"These pools shall be curtailed in the following manner:

"Allowed production, 50 per cent of potential production with this qualification—that in the case of any lease not capable of making in excess of 50 barrels per day it shall be allowed an exemption of five barrels per well per day and the curtailment of 50 per cent shall only be applied to the excess over an average per well of five barrels per day.

"*Class C Pools*: The following pools shall be placed in 'Class C,' to-wit: Carr City pool with its new extension and South Earlsboro pool. These pools, to recognize the market outlet and to conform to the peculiar conditions therein shall be curtailed according to the following schedule:

Average Barrels Per Well Per Lease

300 barrels or more—allowed production 25 per cent.

200 to 300 barrels—allowed production 30 per cent not over 75 barrels.

100 to 200 barrels—allowed production 37½ per cent not over 60 barrels.

Less than 100 barrels—allowed production 50 per cent.

"Also, in these pools where a lease is not capable of making more than 50 barrels per day, there shall be allowed an exemption of five barrels per well per day as in 'Class B'.

"*Class D Pools*: Konowa Pool. There being no other pool in the state in similar position to that of Konawa, it

is placed in a class by itself and should be prorated on the following schedule:

Average Barrels Per Well Per Lease

400 barrels or more—allowed production 18¾ per cent.

300 to 400 barrels—allowed production 22½ per cent not over 75 barrels.

200 to 300 barrels—allowed production 26¼ per cent not over 67 barrels.

100 to 200 barrels—allotted production 37½ per cent not over 53 barrels.

Less than 100 barrels—allowed production 50 per cent.

"Also, in this pool, leases not capable of making over 50 barrels per day shall be granted an exemption of five barrels per well per day as in 'Class B.'

"Class E Pools: East Earlsboro and West Asher-Wanette. Owing to the changing relation between the potential production and the market outlet from these pools, it is recommended that each of them be limited in production to a stated figure representing the present market outlet which, in the case of the East Earlsboro pool, is 15,000 barrels per day, and in the case of the West Asher-Wanette pool is 7200 barrels per day. And that the Umpire and Operators Committee be required to ascertain and compute from time to time the percentage of potential production which may be allowed to conform the permitted production to the market outlet and to report the same to the corporation commission as the basis for an ancillarry order. But in these pools the five-barrel per well exemption in leases not capable of making in excess of 50 barrels per day shall apply as in 'Class B.'

Tatums and Chandler

"Class F Pools: Such as Tatums and Chandler pools, both of which have new extensions with potentially large wells along with old, small wells. Having in view the present market outlet from these pools, the committee recommends that they be curtailed in the following manner:

"Wells with a potential daily production of 400 barrels or more shall be allowed 100 barrels daily. Wells with a daily potential of from 100 barrels to 400 barrels shall be allowed 50 barrels per day. Wells with a daily potential production of less than 100 barrels shall be allowed an exemption of five barrels per day and be curtailed 50 per cent of the excess over five barrels.

"PROVIDED: that the umpire and operators' committee shall, from time to time, make a survey of the market outlet from each of said pools and in case the market demand increases this fact, together with suggested changes in the percentage of allowable production, shall be reported to the commission as the basis for an ancillary order.

"Class G Pools: West Perry, Orlando and Township 20 North, Range 4 West. These new pools with unascertained possibilities are now being curtailed on the basis of the following maximum allowed output which the committee recommends be continued until otherwise ordered by the commission, to-wit:

West Perry .....600 barrels daily
Orlando .....400 barrels daily
Township 20, R. 4 W.....400 barrels daily

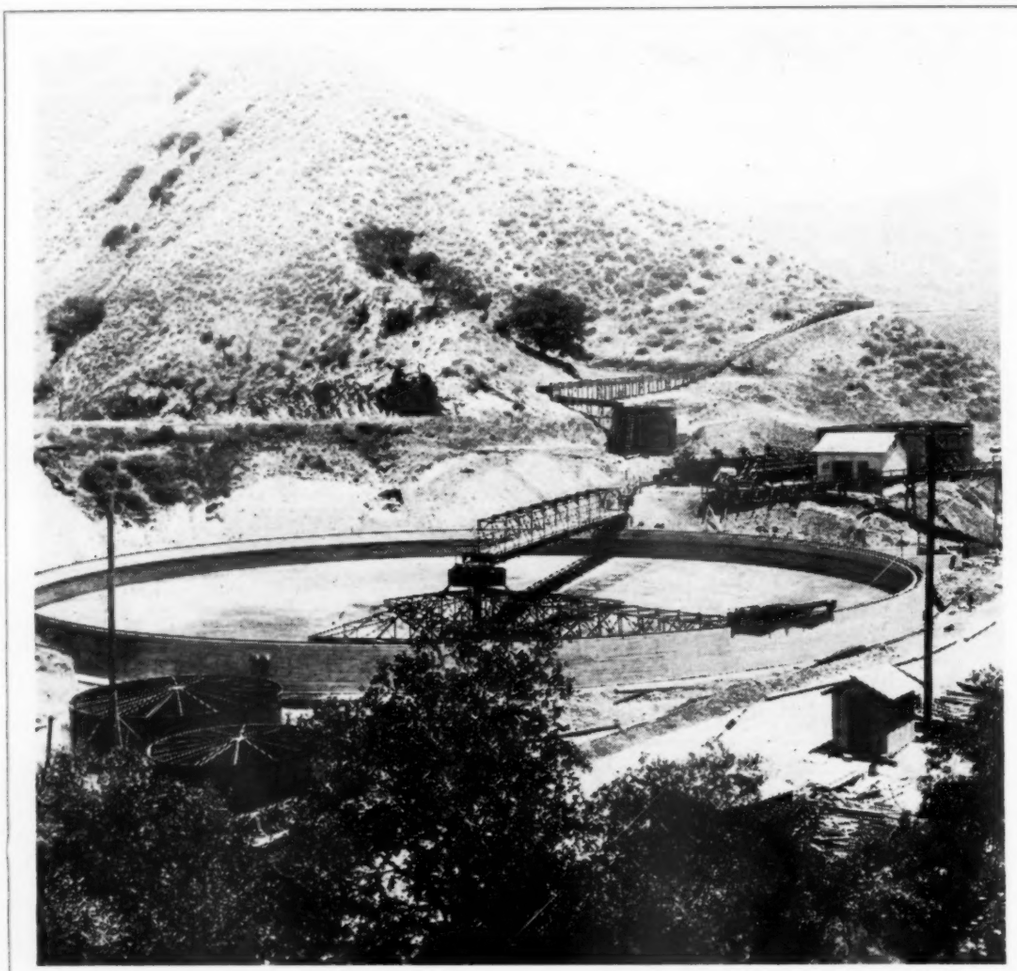
"Class H Pools: The Oklahoma City pool. This pool is so large that it occupies an unique position and must necessarily be treated as in a class by itself. Owing to the fact that the potential production from the field as a whole cannot be taken by flowing all the wells at one time because there would be no adequate facilities for handling the oil, and, therefore, the potential must be considered more or less theoretical, it is deemed advisable to state the total computed market outlet for the field as near as may be ascertained, and that it be recommended to the commission that it, through the umpire and oper-

(Continued on page 178)

SUGGESTED POTENTIAL AND ALLOWED PRODUCTION OF CRUDE OIL—STATE OF OKLAHOMA
Proration Schedule—October 1, 1930, to December 31, 1930**

	OCTOBER		NOVEMBER		DECEMBER	
	Estimated Potential	Estimated Production	Estimated Potential	Estimated Production	Estimated Potential	Estimated Production
Class A Pools	259,280	202,965	257,040	201,770	254,950	200,725
Class B:						
Allen (Wilcox)	8,825	4,413	8,335	4,168	7,920	3,960
Allen (Cromwell)	17,389	8,695	16,867	8,433	16,361	8,180
Bowlegs	27,477	13,734	26,653	13,326	25,853	12,927
Earlsboro (proper)	27,805	13,903	26,971	13,485	26,162	13,081
Earlsboro Townsite	10,000	5,000	9,700	4,850	9,400	4,700
Little River	45,132	22,566	43,778	21,889	42,465	21,232
East Little River	23,482	11,741	22,700	11,350	22,000	11,000
Marshall-Lovell	5,000	2,500	5,000	2,500	4,500	2,250
Maud	5,541	2,771	5,375	2,688	5,214	2,607
Mission	14,233	7,117	13,806	6,903	13,392	6,696
Sasakwa	10,300	5,150	9,785	4,893	9,295	4,648
Searight	12,809	6,405	12,425	6,212	12,052	6,026
Seminole	27,616	13,808	26,788	13,394	25,984	12,992
East Seminole	4,021	2,011	3,900	1,950	3,783	1,892
St. Louis	37,803	18,902	36,669	18,334	35,569	17,784
Sub-Total	277,433	138,716	268,752	134,375	259,950	129,975
Class C:						
Carr City	22,415	6,936	25,965	7,783	28,510	8,380
South Earlsboro	36,000	9,000	33,000	8,250	30,000	7,500
Sub-Total	58,415	15,936	58,965	16,033	58,510	15,880
Class D:						
Konawa	89,500	18,188	88,365	17,933	84,234	17,117
Class E:						
East Earlsboro	45,000	15,000	43,000	15,000	40,000	15,000
West Asher-Wanette	50,000	7,200	45,000	7,200	41,000	7,200
Sub-Total	95,000	22,200	88,000	22,200	81,000	22,200
Class F:						
Tatums	18,000	4,000	15,000	4,000	12,000	4,000
Chandler	25,000	2,500	25,000	2,500	25,000	2,500
Sub-Total	43,000	6,500	40,000	6,500	37,000	6,500
Class G:						
West Perry	1,200	600	1,150	600	1,100	600
Orlando	850	400	825	400	800	400
Twp. 20 N., R. 4 W.	800	400	775	400	750	400
Sub-Total	2,850	1,400	2,750	1,400	2,650	1,400
Class H:						
Oklahoma City	2,800,000	131,095	3,319,000	134,589	3,446,000	131,003
Wildcat Wells	3,000	3,000	10,000	200	10,000	200
New Wells (Outside of Okla. City) Free Production for Testing	5,000	5,000	5,000	5,000	5,000	5,000
Unprorated Small Wells in Prorated Areas	5,000	5,000	5,000	5,000	5,000	5,000
TOTAL STATE	3,638,478	550,000	4,142,872	545,000	4,244,294	535,000

** NOTE: See detailed description of curtailment procedure for each class of pools.



Full view of plant except boilers. The method of bringing in the mud may be observed, while the elevated sand conveyor is seen at right center. The thickener mechanism may also be seen to advantage

Central Mud Cleaning Plant

Proves Value of Elaborate

Reclaiming Methods

By BRAD MILLS
Staff Representative

AFTER three months of continuous operation, Associated Oil Company's central mud cleaning plant in the Ventura Avenue field has demonstrated the value of elaborate reclaiming methods, and the success of the new system indicates that this type of layout may be the forerunner of similar installations in other fields. The application of certain principles to the petroleum industry for the first time makes the plant an interesting experiment, and successful use of a cleaning method not new to the mining industry is a novel achievement which has been recognized by leading petroleum engineers.

Prior to the completion of the mud reclamation plant, the company had developed an extensive mixing and distribution system for drilling in the field but was not satisfied with the loss incurred, the gradually increasing sand content having made the necessary addition of vast quantities of fresh mud.

The disposal problem was also an acute one and involved a large expenditure. The combined cost of disposal and mining and mixing of new mud annually approximated $100,000. Large sumps were required to store mud which had developed a high sand content.

Mud mixed in the Ventura Avenue field contains up to five per cent of sand and required only a limited amount of use to render it unsuitable for use while drilling in certain formations. In designing a reclamation plant, company engineers were confronted with the problems of successful cleaning without substantial loss of volume and the probable reduction of sand content of the reclaimed mud to a smaller percentage than it originally contained. The application of mining principles and equipment has simplified these problems and mechanical devices in use in the copper, coal, aluminum, clay and salt industries have been brought into action for the first time in an oil field. The innovation marks a forward step in the treatment of rotary drilling mud.

Equipment

Besides the smaller auxiliary equipment, the plant consists chiefly of four Dorr classifiers for removing the sand, a huge Dorr thickener and belt conveyors for disposal of the sand. The process is almost identical with that commonly used in the mining industry, but being entirely new to the petroleum industry, a detailed description of the principal equipment and its operation is not out of place. Briefly, the course of the mud takes it through the classifiers, the thickener and to storage by way of three-inch lines from the bottom of the thickener.

The four 15-foot classifiers are of the bowl type, sloping uniformly toward the center to insure even settling out of the sand. Primarily, the classifier consists of a classifying tank and rakes to remove the sand which has settled out, plus the superimposed shallow circular bowl which is equipped with a raking mechanism. The mud enters the classifier at the center of the bowl, the sand settling to the bottom and the water and oil overflowing the periphery of the bowl into the collecting launder. The sand is moved by the raking mechanism to a central discharge opening in the bowl, later passing into a reciprocating rake compartment underneath for reclassification.

Each of the rakes below the bowl and in the classifier proper is carried by two hangers, one at the sand discharge end suspended from an arm attached to a rocker arm or lever, which terminates in a roller; the other from a bell-crank which is connected by a rod to the same rocker. The rakes are lifted and lowered at opposite ends by the action of the cams transmitted through rocker arms and bell cranks, while the horizontal motion is obtained directly from the crank.

Wash water is introduced near the center of the main tank and flows counter-current to the solids, up through the central opening of the bowl. The action of the plows and rakes, coupled with the counter flow of water, produces a washing effect which removes the sand readily, allows the gas to escape and causes the oil to be floated off and into the thickener. The speed of the revolving rakes and the volume of wash water are easily adjusted to meet the volume of incoming mud. The bowl mechanism is operated by a belt from an extension of the main drive shaft, the speed of rotation being regulated by volume and field conditions.

The rakes pull the sand onto a 16-inch belt conveyor which runs the length of the four classifiers. Another belt conveyor, running at right angles to the one which picks up the sand from the classifiers and extending about 150 feet, is used for removing sand to a more isolated location. The sec-

Close-up view of four classifiers in the foreground and huge thickener in center of picture. This photograph was taken while plant was under construction, the classifiers now being housed

This view shows the conveyor arrangement. The conveyor, in the distance, brings the sand from the classifiers and dumps it onto the long one shown. These conveyors run at right angles to one another.

ond conveyor also elevates the sand so that it may be dumped into carts or some other form of container for more distant removal. One small electric motor is used for each conveyor.

Mud from all parts of the field is brought through flumes to a 2500-barrel tank opposite the classifiers. It feeds from this container into a small tank which is connected in common to the four classifiers. This arrangement gives each of the four classifiers the same feed rate and an equal amount of work to accomplish. Mud and water leaving the classifiers enter the thickener via a flume which is connected in common with the four installations.

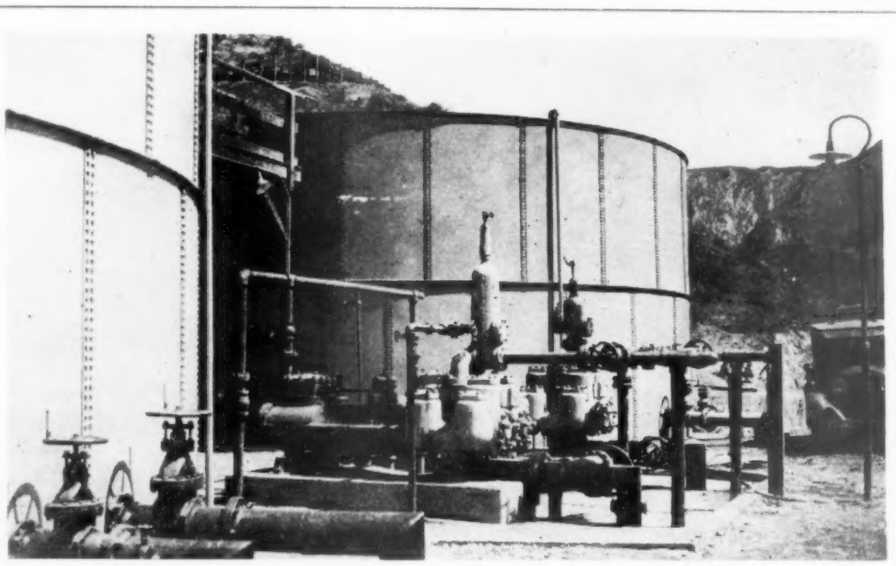
The thickener is a mechanically operated sedimentation unit by means of which a thick underflow sludge and a clear overflow liquor are continuously produced from a feed made up of a mixture of the incoming mud and water. It consists of a tank, or basin, in which a slowly revolving mechanism sweeps settled solids to a discharge opening in the tank bottom. The feed enters continuously at the surface, near the center of the tank. The clear water and oil overflow continuously over the periphery. The thickener is 200 feet in diameter and of the traction type. In this type the thickening mechanism is driven by means of a traction wheel which travels around the periphery of the concrete tank on a steel rail. The mechanism, which is slowly carried around the tank as the traction wheel travels, consists of a truss to which are attached raking blades which sweep the floor of the tank. This truss is supported at the center of the tank by a column. Power is brought in through a conduit which comes up through this column and is carried out along the truss to the drive unit which operates the traction wheel. The feed of mud and water is introduced at the center of the tank, with the water and oil, or the clarified overflow, running off into a launder at the periphery.

It is obvious that the chief objective is to recover the mud in the right consistency for return to the wells while separating the oil and excess water from it. The 200-foot thickener opens from the bottom, the mud being picked up by three three-inch lines and sent to two 2500-barrel storage tanks. Special centrifugal pumps, located in a concrete pit at a lower level than the thickener bottom, are used to move the mud to storage.

The addition of water to the mud while it is being handled by the classifiers naturally causes an excess of liquid, but the separation in the thickener sends the water and oil to steel tanks, via the overflow at the tank periphery, while re-mixing the mud to the correct consistency near the bottom of the tank. From top to bottom of the thickener or tank content, first comes the clear water and oil, followed by mud of varying consistency until the full weight and quality is found in and drawn from the center base.

The launder, or overflow basin, which encircles the tank, slopes gradually from a point opposite the outlet, this drop being common in either direction between the high point and the outlet. The oil and water enters a steel tank, the oil

(*Continued on page 192*)



This view shows the huge pumps used to send reclaimed mud back into system.

Repressuring *and* Initial Pressuring

By H. C. GEORGE
University of Oklahoma

Paper read before American Institute of Mining and Metallurgical Engineers, Tulsa meeting, 1930

SINCE 1911, when J. L. Dunn first used compressed air for repressuring depleted oil sands in Southeast Ohio, the rejuvenation of many depleted oil fields has been directly due to repressuring by means of air or gas.

Developments in repressuring during recent years, have resulted in its successful use in the early life of some deep, high pressure oil fields, conserving the natural gas dissolved in and associated with the oil, by returning it to the producing oil sand, after being compressed above the existing rock pressure of the reservoir. One of the most successful operations as this type is that of Humble Oil & Refining Company, on the De Walt salt dome at Sugarland, Texas.

I quote from a personal communication with reference to this field:

"Structurally, the field is dome shaped, having a closure of approximately 350 feet. Production comes from a sandy shale interbedded with a clean sand and lying over a cap rock which is about 3400 feet deep on top of the structure."

"A feature of the operation of this field is the production of the required amount of oil with the minimum of gas production. Wells on top of the dome have high gas-oil ratios, while those down structure have lower ratios depending upon the distance the well is from the peak. To date, it has been possible to produce the oil needed from the wells circling the dome above the water zone, and below the gas zone, and in this manner the average gas-oil ratios and water percentage for the field have been kept low. The gas from all separators is turned into a gas system which serves the entire field. From this system, all drilling rigs and utilities requiring gas for a fuel draw their requirements, and the remainder of the gas, about two-thirds of the production, is delivered to a compresser plant which boosts the pressure until it can be returned to the sand at the top of the dome where the rock pressure is 1400 pounds per square inch.

"The Sugarland wells produce through two-inch tubing with a 3/8-inch choke in one wing of the well head manifold. The pressure builds up as high as 1300 pounds per square inch on the casing while on the tubing it varies from 0 to 900 pounds per square inch, depending upon the amount of gas produced with the oil."

Sugarland and other unit operations of similar type are examples of repressuring, which due to the early application of pressure and the effectiveness of the results secured, approaches initial pressuring.

I think most petroleum engineers believe that the decline in the flow of oil wells producing from sand reservoirs is chiefly due to the escape of gas in excess of the initial gas-oil ratio, due to a high differential in pressure between the initial rock pressure and that existing in the well at the face of the sand. This excess gas in the form of bubbles which develop in increasing number and size as the well opening is approached and occuring in the sand at increasing distance from the well as the pressure differential increases with the age of the well, presents a constantly growing obstruction to production.

Admitting that under modern operating conditions, pressure control has conserved much gas and has increased the ultimate production over what would have been secured under open flow conditions, it has at best only decreased the degree of the obstruction to flow, because the existing pressure differential is below the initial rock pressure of the sand and permits gas to come out of solution within the sand.

Why Not In New Fields?

After observing the difference in the pressure gradients secured by Professor W. F. Cloud in A. P. I. Project No. 33, while flowing gas saturated oil and dead (gas free) oil through packed sand, it occurred to me, why not in new oil fields, try the experiment of operating oil wells with no wells producing at less than the initial rock pressure. Theoretically this may be done by building up a differential pressure above the initial rock pressure by the use of compressed gas or air introduced into key wells and at the same time at the producing wells maintaining a back-pressure on the sand equivalent to the initial rock pressure. The building-up of this differential at the key wells should cause the oil to move towards the producing wells, with none of the gas coming out of solution within the sand, and with the same condition of flow as when dead oil or free from gas flows through a sand. With constant differential above the initial rock pressure, the resulting condition of flow might approach the same constancy of output as shown by wells under hydraulic control.

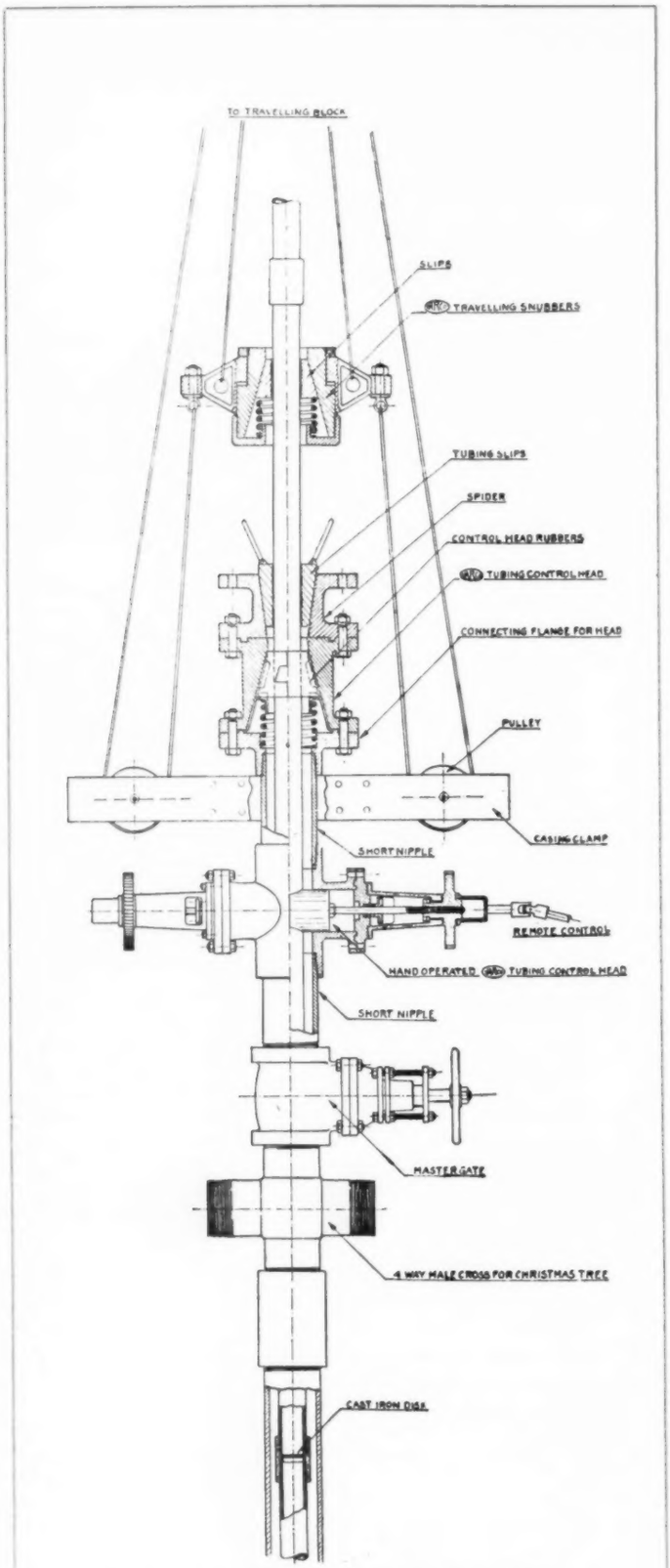
In an oil sand of fairly uniform texture, theoretically at least, initial pressuring should permit the recovery of all of the oil with commercial natural gas, at or above the original rock pressure, of the field. However, if some of the gas produced with the oil is used for surface needs, then extraneous gas will have to be introduced during the life of the field, in order to maintain the initial rock pressure. Frequently gas from upper sands, which would otherwise go to waste could be used for this purpose.

Initial pressuring should have the following advantages:

Periods of flush production would be eliminated in oil fields; paraffin and similar deposits would be decreased and perhaps prevented in oil wells; sand troubles due to cutting of well connections would be at a minimum; there would be no waste of gas; and, gas would be retained as a national resource after the exhaustion of the oil.

Through the co-operation of the various oil companies, the American Petroleum Institute, the petroleum section of the A. I. M. M. E., the American Bar Association and various state and federal bureaus and commissions, some progress has been made toward petroleum conservation and the stabilization of the petroleum industry.

The advantages of unit operation are coming to be recognized as a means toward these ends. Perhaps initial pressuring or something approaching it may play a large part in the proper development, regulation and operation of federal, state and privately owned oil lands, to ultimately secure a stabilized industry.



Equipment for using Varco Tubing Control Head

Automatic Makes Possible Tubing

THE successful use of a new type of automatic control head for running tubing under pressure, a practice which is new in California and offers great possibilities in several fields now under development, has stimulated interest in this phase of field work. The device, perfected by Abegg and Reinhold of Los Angeles and tried under various conditions in Los Angeles basin fields, is light and compact and was designed primarily to eliminate the necessity for killing wells while tubing them. To accomplish this, it is obvious that a shutoff between the casing and the tubing must be maintained and a means provided for forcing the first few joints of tubing downward.

The arrangement consists chiefly of the main tubing control head, the traveling snubbers, and hand operated tubing control head for use in case of emergency. A casing clamp, pulleys and small wire lines are auxiliary fittings used during the snubbing or running in of enough tubing to bring gravitation into play. The installation is much lighter than might be expected of such an arrangement.

It might be well to mention at this time that a device, using the same principle as that employed for running tubing into the well but incorporating a reverse mechanical technique, has been perfected for pulling tubing under pressure. This might be classed as another story, but the relationship between the devices and the similarity of the problems encountered make the composite idea feasible; so the installation for pulling tubing will be described in a few paragraphs following the main subject of running tubing under pressure. The necessity for shifting tubing in the well or pulling strings and running a different size to obtain maximum efficiency makes the subject of pulling these small strings almost as interesting and important as the running-in process. At any rate, the same principles are involved in the two devices and will be treated under one general subject.

Tubing

In running the tubing into the well, the main tubing control head is placed on a short nipple of the last string of casing at some convenient level above the derrick floor. It consists of the bottom connecting flange to engage the casing, body, control head rubbers, spider and slips. The bottom connecting flange engages the bottom of the body, which in turn is flanged on top to engage the spider. A heavy spring is seated in the base of the control head to hold the rubbers in place and maintain a shut-off.

The traveling snubber, which is in reality an auxiliary arrangement and used only until enough tubing has been run to allow it to drop by gravity, is an ingenious device placed around the tubing at some point just above the main tubing control head. It consists of a body, spring and slips and is aided in its work by

Control Head Running or Pulling Under Pressure

the use of wire lines and pulleys, the former running to the traveling block so that an upward pull of those engaging the pulleys forces the snubber to function and send the tubing into the hole against the well pressure.

The traveling snubber, which is in reality an auxiliary arrangement and used only until enough tubing has been run to allow it to drop by gravity, is an ingenious device placed around the tubing at some point just above the main tubing control head. It consists of a body, spring and slips and is aided in its work by the use of wire lines and pulleys, the former running to the traveling block so that an upward pull of those engaging the pulleys forces the snubber to function and send the tubing into the hole against the well pressure.

In the several districts, different methods are employed in snubbing the first few joints of tubing. This control head may be adopted to any one of these practices and no claim is made that the snubbing arrangement is the only one feasible.

Prior to the beginning of tubing operations, the pressure is held by the master gate below the general layout. After the safety control head, casing clamp and main tubing control head have been installed, the bottom of the first joint of tubing is placed in the top of the control head. The snubber is brought into action and the tubing forced through the rubbers. The master gate is then opened and the pressure immediately is thrown against the rubbers in the control head.

The control head rubbers really form one ring which is composed of three pieces of rubber, dovetailed into each other. The unit ring is of semi-conical shape and fits into the top of the housing, which is also of conical design. When the tubing is not in motion, the well pressure forces the rubber ring upward into the cone or wedged body, insuring a shutoff. When the tubing is forced downward or drops of its own accord against the pressure, the rubber ring is also forced downward by friction, and since the displacement of the body of the control head is greater near the bottom the dovetailed rubber ring expands to allow passage of the tubing while still maintaining a shutoff.

While moving downward from the friction of the tubing, the dovetailed rubber ring is pressed tightly against the spring in the bottom of the control head. The spring is seated in the bottom flange and functions independently of the well pressure. The change in position of the rubbers, or rubber ring, is very small while the joint of tubing is slipping through, but when the collar passes through the rubbers are forced downward against the spring, which in turn "gives" to permit lower occupancy of the conical space within the head. This shift and expansion does not bring about appreciable wear, an examination of rubbers used in tubing two or three wells having revealed very slight damage. The tubing collar may force a separation of the three sections of the rubber ring, but the dovetailed joints remain in place enough to maintain a shutoff.

Two Control Heads Used

The use of two control heads, connected in tandem, is possible and when originally designed it was taken into consideration that two might be used under certain conditions. One control head has proven adequate in several instances and a second will rarely be necessary. The change in position of the rubber ring is so small that the passage of collars does not cause a leak.

After enough tubing has been run to bring about a gravity drop, the snubbing device is removed and the tubing slips brought into action in the usual manner. The speed with which a string of tubing has been run under pressure amazed engineers who had been accustomed to think of the practice as a long, drawn-out affair.

The hand operated tubing control head is placed on the casing between the master gate and the tubing control head and is a simple device for use in case of emergency. It is primarily a safety device and functions through the use of two rubber pistons which are forced to clamp the tubing when the double wheels are operated. This control head is left on the well after the tubing is run and the main tubing control head is removed.

Lubrication of the tubing control head is accomplished by use of soap suds or lubricating oil in the top of the device, while crude oil has been found a very satisfactory agent. The chamber in the spider and the space immediately below the slips provide the necessary hopper effect for lubrication.

In pulling tubing, the device or tubing control head is placed in exactly the same position as the one previously described for use in running tubing into the well. The chief difference between the device used for pulling tubing and the one for running it lies in the design of the rubber chamber and the spider. The wedged or semi-conical effect is maintained in the control head for pulling the tubing, but the tapering effect is downward to more nearly approach a "V" than an "A", as in the case of the running-in device. A study of the diagram reveals that pulling of the tubing forces the rubber ring upward against the spring which exerts its pressure downward, or opposite to the action of the spring in the control head for running tubing.

Above the lower body of the tubing control head and flanged to it is the spider control flange and the upper part of the body, the latter housing the upper parts of the spring and pressure packing sleeve. A sliding spider is attached to the top by means of bolts and held in place by external coil springs about the bolts.

In pulling the tubing, the hand operated control valve is opened and the pressure is thrown against the rubbers in the control head. Movement of the tubing outward crowds the rubber into the wedge shape chamber. Both the large inner coil spring and the smaller outer springs function with the upward movement of the rubber ring, the former maintaining the seal and the latter helping to hold the mechanism in place. It is possible to use the head without the small coil springs by connecting the well pressure to the chamber above the rubber.

Running and pulling tubing under pressure is still a novelty in California, but the increased interest in the practice will undoubtedly lead to a much wider use of the method. The control head just described was largely perfected by G. E. McLagan, who first conceived the idea of a device employing main principles of this design.

The Why *of* Clockwise *and* Counter-Clockwise Pumping

By L. A. LITTLE,
*Mechanical Engineer, Lufkin Foundry and Machine Company**

CONSIDERABLE discussion as to the advantages and disadvantages of clockwise and counter-clockwise pumping prompts us to offer the following actual comparison of this question from a power input standpoint with an explanation of the advantage of counter-clockwise pumping compared to clockwise pumping.

The graphic wattmeter charts of Malone No. 5 and Malone No. 6 shows the difference of power input characteristics running a Lufkin No. 5½ Pumping Unit forward (Clockwise) and reverse (Counter-Clockwise.)

The position of the rods as listed under the Wattmeter Charts are numbered in accordance with the following:

Position of Rods Notation—	Actual Position of Rods
1	Peak load on Pump Stroke
2	Rods at top of travel
3	Peak load on Counterbalance Stroke
4	Rods at bottom of travel

Our conclusions from observing these Wattmeter Charts were:

1. Running Units in reverse decreases the amount of Counterbalance required, cuts the power consumption slightly, and makes the peak of the lift portion of the stroke more gradual instead of a sharp peak.

2. Better operating conditions in the reverse direction is due solely to the angle of pull of the Pitman with respect to the Walking Beam.

*Reprinted from The Lufkin Line.

In order to substantiate our second conclusion we are presenting two diagrams 8-846 and 8-847.

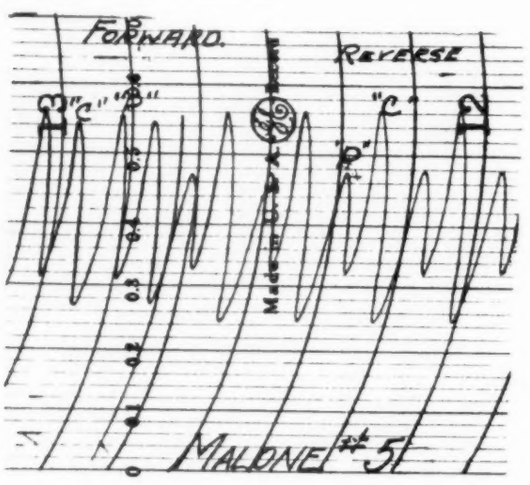
In these two sketches we have laid out a diagram of forces connecting points on the crank pin circle to the respective location of the Walking Beam at these points.

The vectors marked "F" represent the force applied by the crank pin through the Pitman to the Walking Beam. The vectors marked "FE" represent the resultant of "F" or the force effective in moving the Walking Beam up and down and is perpendicular to a line from the center of the Pitman stirrup to the center of the Walking Beam, center bearing. The vectors "FL" represent the proportional force lost due to angularity of the Pitman with respect to the Walking Beam.

It is readily noted that "FL" vectors diagram 8-846 points 8 to 12, are much larger than "FL" vectors diagram 8-847 points 2 to 6. Therefore, less of the forces applied at points 8 to 12 are utilized or effective in doing work than the forces applied at points 2 to 6.

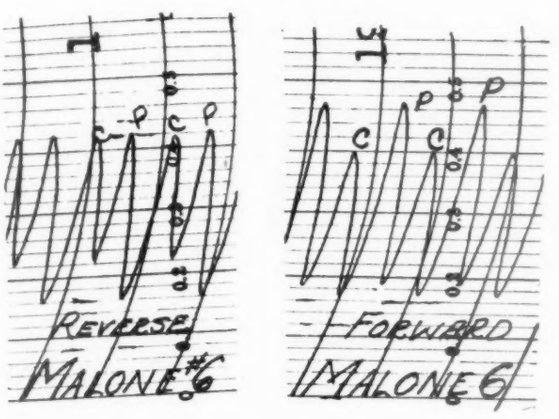
The maximum forces are brought into action during the lifting half of the pump cycle. Therefore the lifting half of the pump cycle should be between points 2 to 6 where the force applied to the crank pin is most effective. Therefore to keep the maximum forces applied as low as possible the pumping units should be operated in a reverse (Counter-clockwise) direction.

Results and diagrams as discussed above have been obtained with stirrup type Pitman, operating on top of beam with walking beam center iron below beam.



Rod Position	1	2	3	4
Forward H.P.	47.2	26.6	46.3	23.2
Reverse H.P.	40.7	27.6	47.2	21.0

Well Conditions: Tubing 3" - Rods 3/4" Depth 2693'-Fluid 1450 Bbl.-Oil 150 S/M 23-Stroke 72" Counterbalance Std.Lufkin 5-1/2" Crank-Beam Wt. 1500# 4' from pitman.



Rod Position	1	2	3	4
Forward H.P.	40.3	16.3	34.3	14.6
Reverse H.P.	35.8	19.0	36.2	13.7

Well Conditions: Tubing 3" - Rods 3/4" Depth 2700' App.-S/M 22-Stroke 72". Fluid 1500 Bbl.-Oil 60 Bbl. Counterbalance: Std.Lufkin 5-1/2" with 3450# on Beam 6' from Pitman.

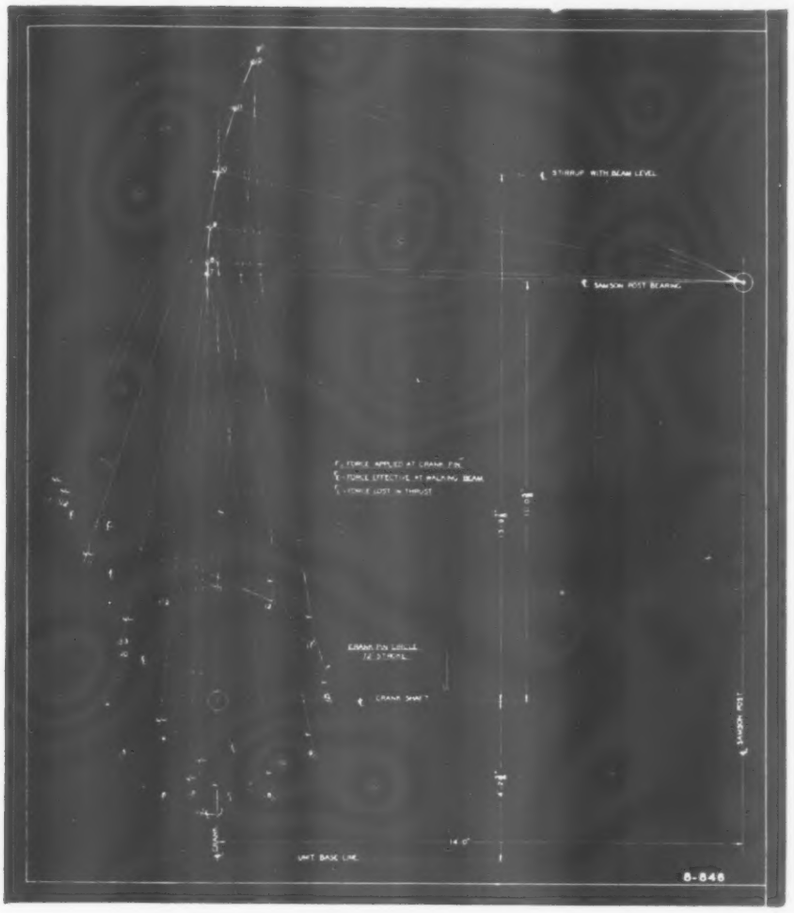


Diagram of Forces Connecting Points On Crank Pin Circle to Respective Locations of Walking Beam

The vectors marked "F" represent the force applied by the crank pin through the Pitman to the walking beam. The vectors marked "F.E." represent the resultant "F" or the force effective in moving the walking beam up and down and is perpendicular to a line from the center of the Pitman stirrup to the center of the walking beam, center bearing. The vectors "F.L." represent the proportional force lost due to angularity of the Pitman with respect to the walking beam. Conclusions completely explained in accompanying article.

1930 Oil Production Off 44,000,000 Barrels Preliminary Figures Show

By VALENTIN R. GARFIAS
Manager Foreign Oil Dept. Henry L. Doherty & Co.

PRELIMINARY figures at present available indicate that the world's petroleum production in 1930 will be close to 1,444,000,000 barrels, showing a decrease of about 44,000,000 from 1929 as compared with an increase of 161,000,000 in the previous year.

The important developments so far this year have been the partial normalization of production in the United States, resulting in an estimated decline of about 69,000,000 in the face of a much larger available potential production. This has been particularly beneficial as the consumption of all oils in the United States will probably be lower in 1930 than in 1929. Storage at the end will be somewhat greater than at the beginning of the year although the rate of increase has been materially reduced during 1930. Important mergers of big producing and refining companies have recently taken place and this should eventually facilitate a comprehensive policy of conservation.

Other outstanding events have been the increase of production of the Russian and Roumanian fields, it being estimated that if production follows approximately present trends for the balance of this year and during 1931, Russia will replace Venezuela as the second ranking country, Roumania, Persia as fourth in rank and Dutch East Indies outrank Mexico for sixth position.

The world-wide financial and industrial depression which has been, at least, partly responsible for political unrest in various countries may in some cases in turn affect their petroleum development, such being the case in Bolivia, Peru and Argentina. The peaceful change of government in Colombia, on the other hand, is expected to pave the way for a more intensive development of the country's resources.

United States

Should present proration and similar agreements continue throughout the year, the production in the United States, which increased from 901,000,000 barrels in 1928 to 1,006,000,000 in 1929, should decline in 1930 to 937,000,000 more nearly to conform with demands. This will be due primarily to a further progress of the conservation policy, which has resulted in the prorating of production principally in Oklahoma, California and Texas. Estimates have been made showing that production could be doubled, if not trebbled should conservation be discontinued in these states.

Venezuela

It is estimated that production in Venezuela will be about 139,000,000 barrels, or an increase of two million over 1929. The production which could easily have been larger has been regulated by conservation agreements between the important companies. Disappointing results have been the rule in wildcat operations outside of the producing region near Lake Maracaibo.

Russia

The 1930 yield in Russia is estimated at about 126,000,000 barrels, showing an increase of 23,000,000 barrels from the previous year. Production has increased about 43 per cent during the last two years, in accordance with the "five-year expansion program." Should the Russian program develop during 1931 as it did during the present year, and the Venezuelan production continue under control, Russia may out-rank Venezuela in 1931 for second position.

Persia

The carefully regulated production of the Persian fields is being maintained at a yearly figure of about 44,000,000 barrels, the development of the oil resources of this country affording an excellent illustration of the benefits derived from the unit plan of operation of pools on a large scale.

Dutch East Indies

Production of the Dutch East Indies has gradually increased and should this continue, it is possible that during the coming year, these fields will out-rank Mexico as sixth producer.

The fields of Colombia, Peru, Trinidad, Argentina, India, Sarawak, Poland, Japan and Egypt probably will not offer important changes during 1930, while those of Ecuador, Canada, Iraq and Germany should show a moderate increase in production.

The accompanying table shows the world's production for 1928 and 1929 as published by the United States Bureau of Mines, and the estimated figures for 1930.

World Petroleum Production
In Thousands of Barrels

		1930	1929	1928
1	United States	937,000	1,006,000	901,474
2	Venezuela	139,000	137,000	105,749
3	Russia	126,000	103,000	87,800
4	Persia	44,000	45,250	43,461
5	Mexico	41,000	44,689	50,151
6	Roumania	41,000	34,930	30,773
7	Dutch East Indies	38,000	37,924	32,118
8	Colombia	20,000	20,385	19,897
9	Peru	13,000	13,404	12,006
10	Trinidad	9,200	8,810	7,684
11	Argentina	9,000	8,800	9,070
12	India	7,200	8,470	8,741
13	Sarawak	4,700	5,277	5,223
14	Poland	4,500	4,953	5,493
15	Japan	2,000	2,010	1,944
16	Egypt	1,800	1,866	1,842
17	Ecuador	1,500	1,351	1,084
18	Canada	1,300	1,133	624
19	Sakhalin	1,300	1,160	677
20	Germany	1,000	711	630
21	Iraq	1300	798	713
22	France		516	512
23	Czechoslovakia		93	94
24	Italy		44	46
25	Others		30	24
		1,444,000	1,488,604	1,327,830

Opening of the Exposition—E. B. Reeser speaking

Lamont Says Petroleum Industry Can Work Out Its Problems

TULSA.—In opening the seventh International Petroleum Exposition and Congress here October 4, R. P. Lamont, Secretary of Commerce, brought a message pointed directly toward the petroleum industry and its relation to the whole business structure. Secretary Lamont made the official opening address.

In his reference to overproduction, he pointed out that the history of industry is strewn with the wrecks of overproduction.

"There is very little the government can do," he advised, "to overcome such conditions. Help must come from those within the industry. It is the function of government to lend aid and encouragement to the men of an industry, as they strive to solve their problems.

"It is true that overproduction is more serious to an industry which deals with a natural resource than with an industry whose excess goods are the result of manufacture. When a natural resource is produced in excess of its needs it never can be replaced. Manufactured goods can be replaced and the condition of overproduction can be more quickly halted.

"I am personally not one who favors the bottling up of resources for the future rather than for the present. We have demonstrated that each generation can be relied upon to take care of its needs. But is a serious matter when a generation finds itself taking more of a natural resource than it needs.

"But we have evidence that the men within the petroleum industry have the ability to work out its solutions. What has happened recently in Oklahoma and in other oil producing states is evidence of that. It is striking evidence of what can happen when men turn their attention to the solution of their problems and when government maintains its proper attitude.

Concerning the business depression the secretary of commerce said he could venture no prophesy as to its duration.

"But make sure of this," he added, "we shall emerge from this depression more efficient than when we entered it. That is the history of such periods in our business circles. In stress we learn to do better than we did under other conditions."

Opening ceremonies of the exposition were started by an invocation by the Rev. C. W. Derr, pastor of the First Presbyterian church of Tulsa. W. G. Skelly, president of the International Petroleum Exposition and Congress, followed with some introductory remarks and introduced E. B. Reeser, presi-

dent of the American Petroleum Institute, who introduced the speakers.

George L. Watkins, mayor of Tulsa, gave a brief history of the exposition in its seven years along with his address of welcome.

Henry L. Doherty, president of Cities Service, dwelt chiefly on the matter of the unit development of oil fields as the next step in the growth of the petroleum industry.

After Secretary Lamont had spoken, Pat Hurley, Secretary of War, spoke briefly and advised as follows:

"Don't sell Tulsa short. Don't sell Oklahoma short and don't sell the United States short."

The unfurling of a huge flag and the firing of bombs were the final touches of the opening events.

The opening ceremonies found the foremost of the International Petroleum Expositions ready. More displays had been given their final touches than ever before. The grounds were in perfect condition and the crowds went routes as if the gates had been open several days.

Those inclined to deal in figures estimated that equipment valued at $13,000,000 had been brought to the grounds. Two new buildings and more open space had been added since last year. In addition to these facilities for the display of equipment the grounds had been improved with additional walks and drainage facilities. About $100,000 had been spent to enlarge and improve the plant.

A P I Special for Texas Oil Men Arranged

Houston—Through the co-operation of the Wildcat committee of the Mid-Continent Oil & Gas Association, arrangements have been made whereby all Texas oil men may go to the American Petroleum Institute meeting in Chicago by special train, as has been the case in previous years.

The route selected is as follows: Southern Pacific Lines from South Texas to Dallas; combination short line route Katy and Frisco from Dallas to St. Louis, and the Chicago and Alton from St. Louis to Chicago. South Texas oil men will leave on the Sunbeam from Houston at 12:01 p. m., Saturday, November 8, arriving in Dallas at 6:30, where, after a short wait the party will continue to St. Louis.

Announcement of these arrangements has been sent out to all Texas oil men by R. L. Dudley, secretary of the Houston Wildcat Committee.

A. I. M. M. E. Meeting Draws Large, Interested Attendance

TULSA.—The American Institute of Mining and Metallurgical Engineers, petroleum division, held its fall meeting here on Thursday and Friday, October 2 and 3, bringing together approximately 100 engineers and executives from the major producing areas of the United States. In addition to developing some highly interesting papers, the meeting was instrumental in bringing out a large amount of highly useful data on problems now in the early stages of experiment.

The first day was given over to the reading and discussion of seven papers on proration and unit operation. Following Dr. James E. Pogue's paper on the "Economic Aspects of Unitization," the chairman called on Judge W. P. Z. German and Judge James A. Veazy, chief counsel for Skelly Oil Company and Carter Oil Company, respectively, to give their views on the proration and unitization problems. Both were in accord in the belief that the state could control proration and bring unitization into effect without enactment of additional laws. Judge German pointed out that in his opinion, this could be done under the police power of the state. A brief history of the defense offered by the state in Champlin Oil & Refining Company's case was given. Judge German made an emphatic statement that the court had not left the question open, as had been reported in the press. Henry L. Doherty, president of the Cities Service Companies, and one of the pioneers of the unitization idea, gave his impressions on the subject and presented a comparison of the attitude toward unitization during the early part of his struggle and that now held by the major operators.

Friday morning was devoted to the presentation of papers on recovery of oil and principles in the selection of tubing and the velocity of flow through tubing. An interesting discussion on the interpretation of bottom hole pressure data and the problem of determining well potentials without actual flowing conditions, occupied a large part of the afternoon. Engineers of several of the oil companies were in disagreement on the method of making potential determinations without the actual opening of wells and the type of curve evolved in the study of densities of oil and gas columns from well data.

The meeting was closed with a short talk by C. V. Millikan, chairman of the petroleum division, in which he complimented members for the active part taken in discussion of the papers.

"Mushrooming" of a Salt Dome

A suggestion that THE OIL WEEKLY publish an article on "mushrooming" of salt domes came to us a short time ago, and we were very much pleased that at that very time we had in course of preparation just such an article.

So one of the features of THE OIL WEEKLY, October 17, will be an article, accompanied with drawings and a map, showing the unprecedented circumstance that "mushrooming" or overhanging of the salt exists around all edges of one of the Gulf Coast domes, as revealed in wells which have drilled through hundreds of feet of salt, passing then into oil producing formations.

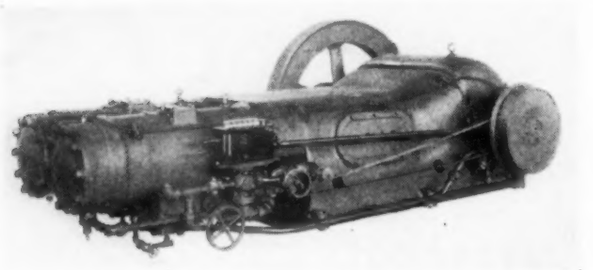
A thought provoking theory is advanced suggesting the possibility that for this field, at least, there may be a complete reversal of the heretofore generally accepted theory that the general form of a salt dome is that of a great buried hill, large in diameter at the base, and smaller at the top. It is suggested that at least the particular dome in question may have the general form of an ice-cream cone, large in diameter at the top and tapering off to a point at its base, possibly 15,000 feet below the surface.

Modern Field Equipment Display

INTERNATIONAL PETROLEUM EXPOSITION

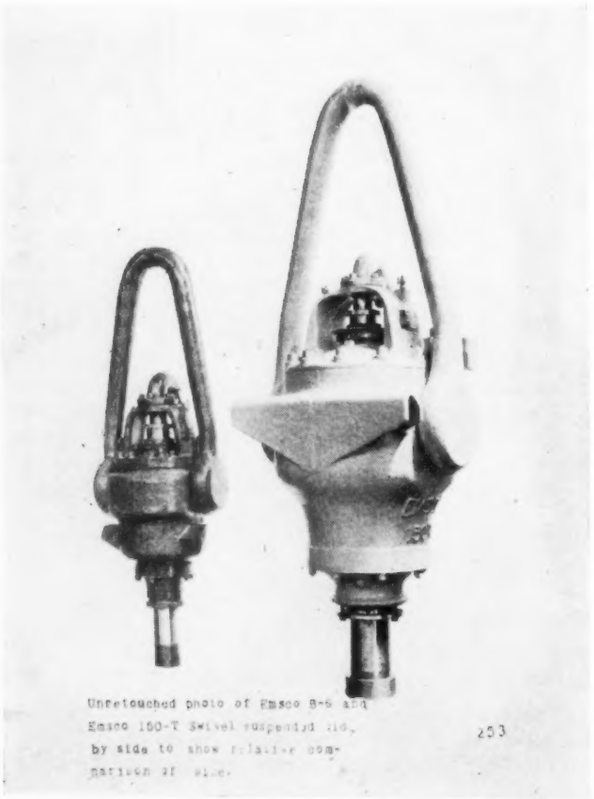
Tulsa, Oklahoma October 4 to 11, 1930

Continental Supply Company



GAS ENGINES

Continental Supply Company, St. Louis, is showing a line of 75 H.P. gas engines developed for heavier production equipment. These engines, built by Fairbanks-Morse Company, are of the two-cycle design with enclosed splash lubricating system. Every engine is equipped with rotary magneto, force feed cylinder lubricator, horizontally enclosed governors and air start. Use of the flywheel eliminates critical speeds and the engine is particularly free from vibration throughout its entire speed range.



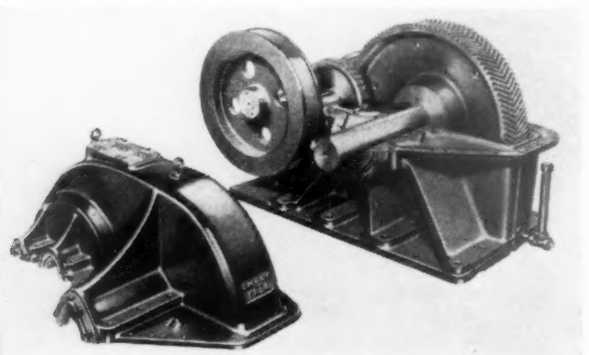
Unretouched photo of Emsco B-6 and Emsco 150-T Swivel suspended side by side to show relative comparison of size. 253

EMSCO SWIVEL

This new Emsco swivel has been designed to meet the needs of the heavy equipment being used on derricks. Features of the swivel are the main bearing which is patterned after the B-6-inch swivel but is heavier and larger; positive alignment of sleeve with roller bearings above and below the main bearings on sleeve. Large oil capacity and heavily ribbed housing, large fluid passages and heavy bail are other points featuring the construction of this swivel. Total weight of swivel is 6635 pounds.

TRAVELING BLOCK

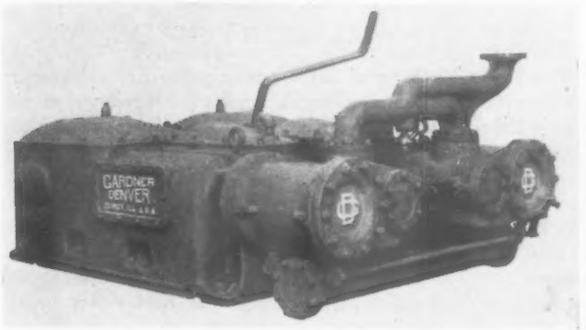
The traveling block is built on streamlines eliminating projecting parts, which give it more latitude in operation. The sheaves of the block are made of manganese steel. Bearing construction consists of 16 hardened steel rollers with each sheave. These rollers rotate on Nickel molybdenum hardened and ground races, shrunk on the center pin. Center pin is eight inches long with Alemite fittings at each end of the pin to lubricate the rollers. Detachable bottom clevis eliminates the necessity of removing the bottom pin and dropping the entire clevis and spacers out of the block when attaching the hook or other equipment.



REDUCTION GEAR

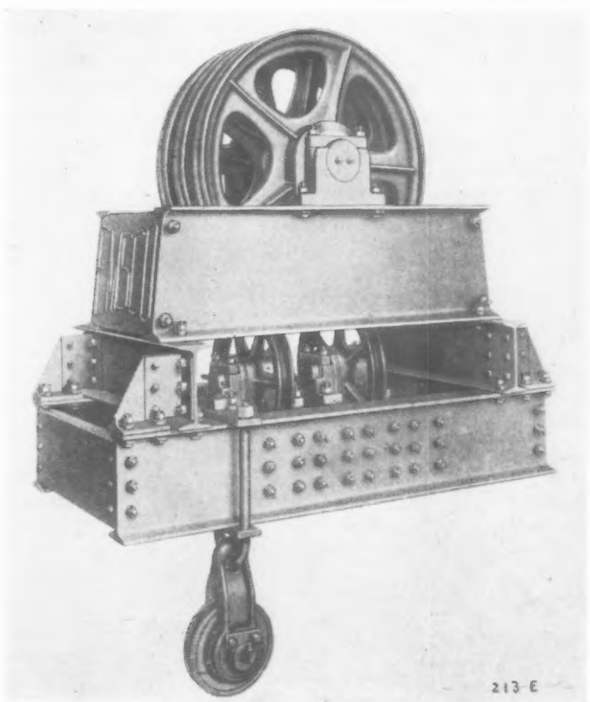
The Emsco reduction gear is claimed to be capable of transmitting the full power of a 250 H.P. motor when used with

electric power. The gears are of the helical type, unusually wide faced and are machine cut from steel drop forgings. Shafts are mounted in extra large anti-friction bearings, the driving pin rotating on two Timken cone roller bearings and the driven gearshaft having a Timken double roller bearing on the sprocket end and a Hyatt roller bearing on the opposite end. This gear accommodates a range of motors and is available in 3 to 1, 3¼ to 1 and 3½ to 1 speed ratios.



HEAVY TWIN STEAM DRILLING ENGINE

This new twin steam drilling engine is designed to operate with 350 pounds working steam pressure, the crankcase being extra large and mounted on oversize bearings, the connecting rod crank pin also being roller bearing equipped. The engine is totally enclosed and splash lubrication is used with the exception of the main bearings which use Alemite system of lubrication. All parts of the engine are exceptionally heavy to insure necessary safety factor.

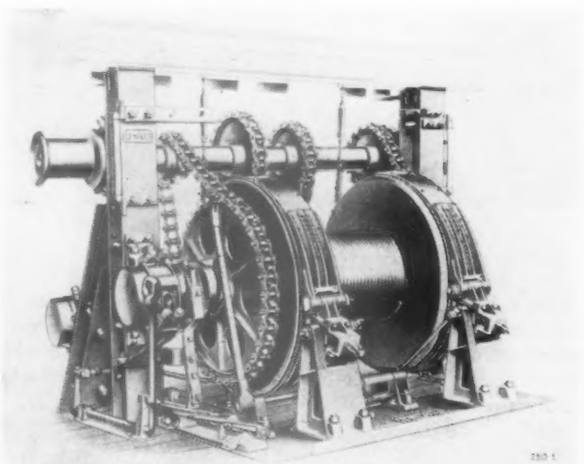


CROWN BLOCK

The crown block is intended for straight rotary drilling with Mid-Continent reeving, the lines reeving straight without noticeable angularity. The 46-inch diameter upper deck manganese steel casing line sheaves reduce bending stress on the wire line. All sheaves are mounted on heavy duty roller bearings, Alemite lubricated.

STEAM SLUSH PUMP

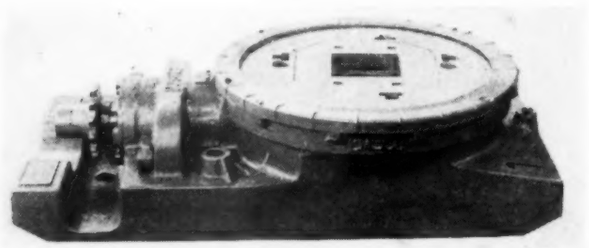
Gardner-Denver offers the new 10 by 8 by 24-inch heavy duty in which are embodied several features of design such as valve construction which allows for sixteen valves to handle the enormous amount of slush handled by this pump. Careful baffling guides the slush stream through the pump. Other features of the design of this pump are: divided fluid end—rigidly supported at four points—extra heavy cradle, high pressure steam end piston valves. Weight of pump is 27,000 pounds.



DRAW WORKS

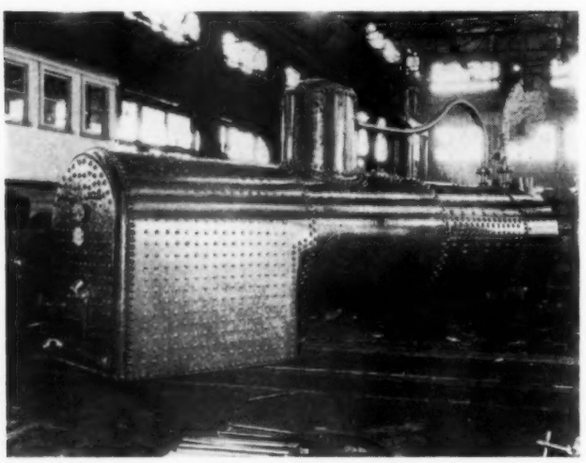
The Emsco brake on the type H-54 draw works is claimed to give a smooth braking action with tremendous leverage. It cannot kick, grab, nor chatter. Drum construction gives much greater braking surface with the 54-inch diameter drum. The brake wheel is held between two flanges by two rivets. The shaftings are of chrome-nickel steel forging and are 7½ inches in diameter. Extra heavy duty Hyatt roller bearings are mounted in steel boxes of the self aligning type. The roller bearing assembly swivels to conform to the axis, assuring perfect alignment at all times. The bearings are lubricated by the Alemite system. Steel posts are of the 10 by 10 type H-beams, with reinforcing plates riveted and welded

above the bearings. Heavy tubular reinforcing spacers are welded at the bolt holes between the flanges.



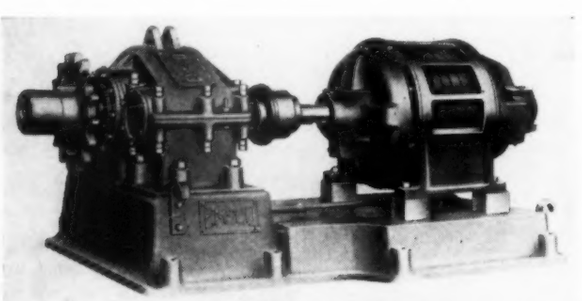
ROTARY MACHINE

The type H-27½-inch enclosed bath rotary machine carries the features of one piece base, table enclosure, table bearing pinion shaft bearing, unitary bearing housing, alloy steel parts and ring guard. A safety feature is provided to prevent slipping and presenting flat surface upon which slips may be rested.



SUPERHEATER BOILER

This boiler has been carefully designed to secure ease of steaming together with features tending to give long life with minimum trouble in hard service. The boiler is equipped with Elesco superheater which makes it very efficient and satisfactory for a steam generating unit.



PUMPING UNIT

This unit is designed to be adaptable to V belt drive by electric motor, gas engine, Diesel engine, or steam turbine and may be coonnected by direct drive to the higher speed multi-cylinder internal combustion engines through a reverse clutch. Gear ratios from 11½ to 1 up to 70 to 1 are available. Features of the unit are the gears,—herringbone type, bearings which are of the airplane split sleeve type, lubrication by the splash system and double wear construction which makes it possible to reverse the high and intermediate speed shafts which provides for additional life by bringing into contact the unworn surfaces of the gears and pinions on the shafts.

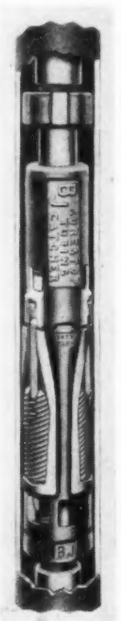
POWER SLUSH PUMP

The power slush pump has a center gear drive construction which gives maximum strength required for pumps of this type. Eccentrics bolted directly on the main gear allows a floating shaft to be used for this gear in which no torque is exerted. Connecting rods are of cast steel with cast iron liners as bearings to the eccentrics. One piece crossheads reciprocate in guides cast integrally with the frame. The fluid end is two pieces and is interchangeable with the Gardner-Denver 14½ by 4¼ by 20 steam pump fluid end. Eight valve construction is used. Valve corners are held down by six studs.

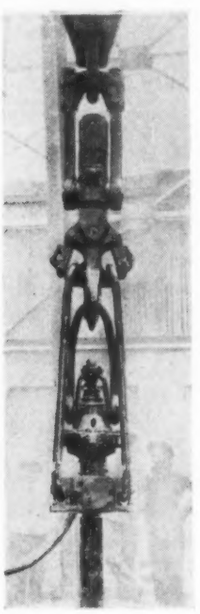
Byron Jackson Company

TUBING CATCHER

Byron Jackson Company, Los Angeles, is displaying a new tubing catcher which sets and holds in a two-inch drop. A guide collar placed at the top of the tubing section centers the catcher and has another important function in eliminating the possibility of "telescoping." A sturdy casting, protecting the actuating spring, contacts this collar when the slips are at their maximum expansion, and prevents them from sliding over the head, in case the casing bulges sufficiently to prevent the slips from setting. The actuating head is designed to permit the slips to set very



B J Tubing Catcher



Triplex Hook

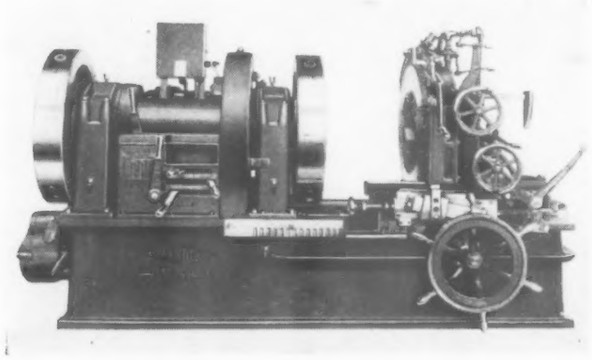
quickly so that they catch and hold instantly. The actuating mechanism is placed above the slips so that gas or fluid pressure will not cause them to set while running in the hole. The increased weight of the slips, slip reins, and actuator, permit the use of a much heavier spring, which assures positive setting action.

TRIPLEX HOOK

This piece of equipment is comprised of three hooks. The elevator links are carried in two side hooks, distributing the load centrally without bending strains, keeping the links in an almost vertical position and eliminating stresses due to horizontal components. The third hook which extends below the other hooks is for carrying the swivel bail and is provided with a heavy automatically closing latch which interlocks with the hook body. The hook assembly swivels and turns in any direction by means of a universal joint principle.

Besides these pieces of equipment the company is also showing the slush pump, safety joint, slip grip, center latch elevators, tongs of all types, and the regular line of drilling and production equipment.

Landis Machine Company

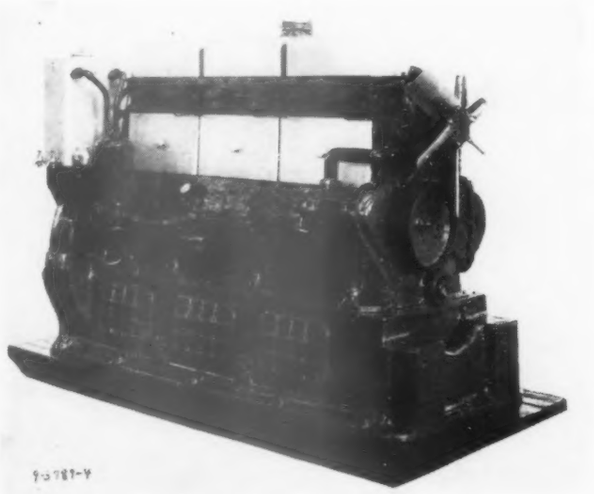


PIPE THREADING MACHINE

Landis Machine Company, Waynesboro, Pennsylvania, is showing the Landis pipe threading and cutting machine with receding chaser, two cut die head and lead screw attachment. A chaser, 1 15/16 inch in width, is employed regardless of the total thread length. This chaser has a combination turning and threading throat. The die head is a two cut head, which permits of the roughing and finishing cuts without any change in the diametrical adjustment. Both the roughing and finishing cuts are controlled by the one taper mechanism. The taper mechanism generates a straight line taper or a taper which is absolutely uniform throughout the entire length of the thread. The sine bar is adjustable for all tapers up to and including ¾ inch taper per foot. A plug provides a positive means of locating the sine bar for 3/16 inch, ⅜ inch and ¾ inch tapers per foot.

The lead screw attachment, with change gears for the different pitches, insures a perfect start of the thread. The intermediate gears are mounted on a floating carrier. The lead screw nut is of the split type. This nut is engaged by hand or disengaged either automatically or by hand at the end of the thread. The cutting coolant is supplied to the chasers internally through the holes in the bore of the die head. These holes are located so that the cutting edge of each chaser is flooded with the coolant. Provision is also made for lubricating all sliding and rotating surfaces in both the die head and the machine.

The Buda Company

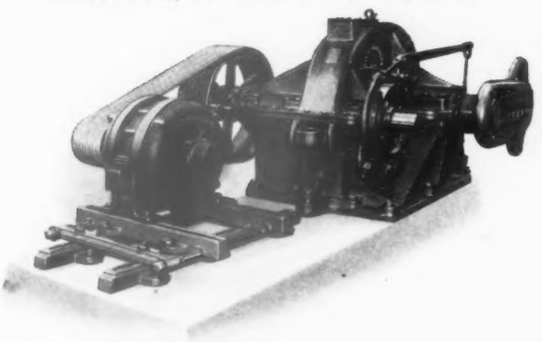


DIESEL ENGINES

The Buda Company, Harvey, Illinois, is showing several models of the Diesel engine and power units of the four and six-cylinder type. These engines operate on the four-stroke-cycle principle and are adapted to meet all load conditions. Fuel is pumped into the combustion chambers without the use of compressed air or pre-combustion chambers. There are no hot spots, hot surfaces, of ignition devices. Force-feed lubrication of the dry-sump type is used. Starting is effected by means of electric motor or small gasoline engine mounted on fly-wheel housing.

Allis-Chalmers Manufacturing Company

TRACTORS, WINCHES AND BOOMS



Allis-Chalmers Oil Well Unit

Allis-Chalmers Manufacturing Company is showing a complete line of oil field tractors, winches and pipe laying booms in connection with the new Allis-Chalmers No. 11 Oil Well Unit. The unit is complete with motor and has the features of a seven-inch main shaft, interchangeable gearings, universal rails for any motor—600 to 1200 r.p.m., post brakes, shock-absorbing Texrope drive to give any number of pumping strokes, crank balance or fly wheel effect optional, automatic lubrication and choice of housing arrangements. The new explosion-proof motors with open motor mounting dimensions are also on display.

Southern Pine Association

ALL-WOOD DERRICK

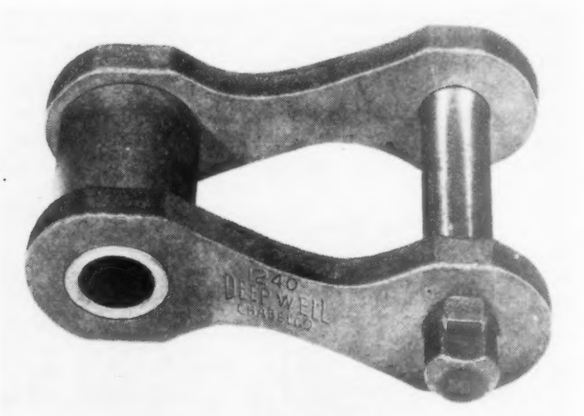
Southern Pine Association, New Orleans, Louisiana, is showing wooden derricks built according to modern engineering design for oil field use. Careful planning in the design and selection of good quality and grades of lumber have given proper strength values for the loads to be carried. Grades of Southern Yellow Pine to be used in the construction of these derricks have been named by a committee to insure derricks that are in conformity with the findings of the best engineers.

Baird Manufacturing Company

BAIRD SNUFFER

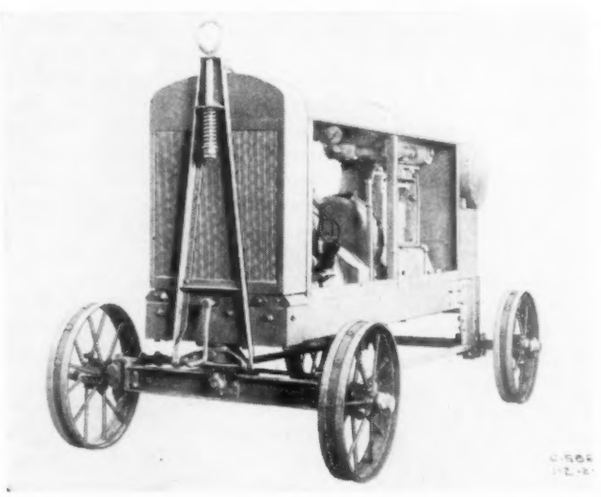
Baird Manufacturing Company, Tulsa, is showing an improvement in fire fighting devices to prevent or combat unexpected ignition of oil or gas while drilling. The snuffer is so constructed that a means is provided for an internal circulatory delivery of steam directly into the combustible flowing column by utilizing the velocity of the fluid or gas coming out of the well to create the required pressure necessary to combat the rock-pressure of the well and introduce the steam into the column. A means is also provided for the external delivery of water, steam or fire-extinguisher fluids to surround the rising body and put out ground fires on the rig or in the cellar. The installation is made by screwing the head on each string of casing run where gas is to be connected. Lines are then connected and run to the boilers. Lips are recessed inside the walls behind which the force of the rising column of oil or gas creates a partial vacuum which sucks the steam in with the rising column, thus giving the operator all the pressure of the well plus that provided by the boiler.

Chain Belt Company



CHAINS

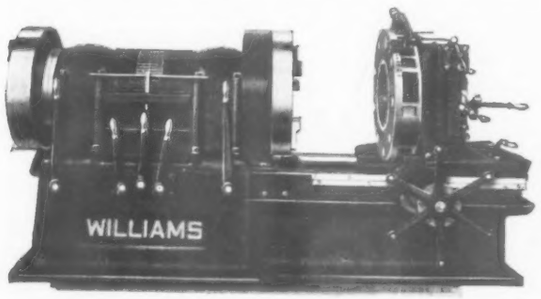
Chain Belt Company, Milwaukee, is displaying the new and improved Chabelco chain for the oil fields. Improvements in this chain involve automatic processes of manufacture and alloy steels used. Features of this chain are accuracy of pitch, smooth bearing surfaces and close tolerances.



WATER PUMP

The open air exhibit of the company includes a line of water pumps and concrete mixers. The Rex Triplex automotive type pumps, diaphragm pumps, centrifugal pumps and plunger pumps are being shown.

The Oster Manufacturing Company



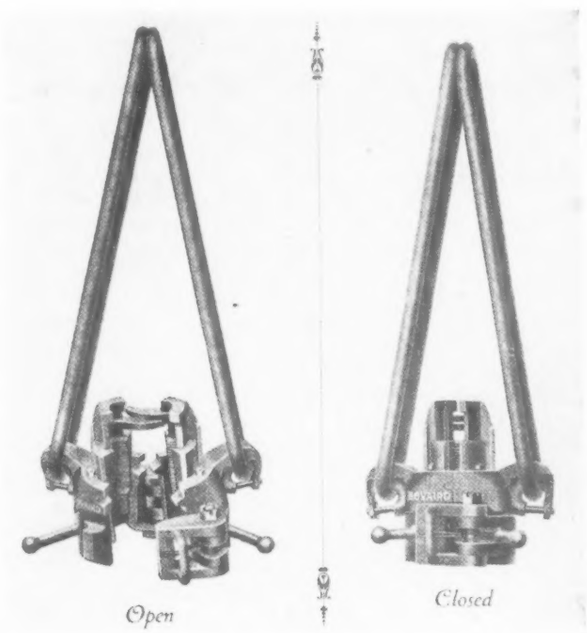
PIPE THREADING EQUIPMENT

The merger of Williams Tool Corporation and Oster Manufacturing Company, Cleveland, has resulted in a most unusual and complete display of pipe and bolt threading equipment. One of the featured displays is the Williams "Rapiduction" pipe machine which has a very great production speed.

The Bovaird Supply Company

TUBING ELEVATOR

Bovaird Supply Company, Tulsa, Oklahoma, is displaying the new split-slip type tubing elevator featuring the split design and the use of the tapered slips with a positive release that is independent of the slips. This is accomplished by having the two halves of the bowl rock away from each other when the load is released. Only the three-inch size is made in this equipment, removable and interchangeable slips handling the two-inch, 2½ inch and the three-inch tubing. There are four slips to a set having horizontal rows of teeth for engaging the tubing. The entire structure, except the bails, which are of the usual type, is made of special analysis steel castings, specially heat treated for the service required. In service the elevator is snapped around the tubing, the gate closing automatically. In the upward travel of the elevator the automatics come in contact with the couplings. This forces the slips downward in the tapered bowl, compressing the springs, and causes the slips to engage the tubing. The upward pressure of the automatics on the tubing coupling is entirely relieved when the slips engage the tubing. When the elevator is relieved of its load the two halves of the tapered bowl rock back on trunnions. This allows the springs to force the slips upwards in the bowl and away from the tubing. The same action releases the pressure on the hinge and gate and the elevator is easily opened with a light pull on the handle.



Bovaird Tubing Elevator

Imperial Brass Manufacturing Company

WELDING AND CUTTING OUTFIT

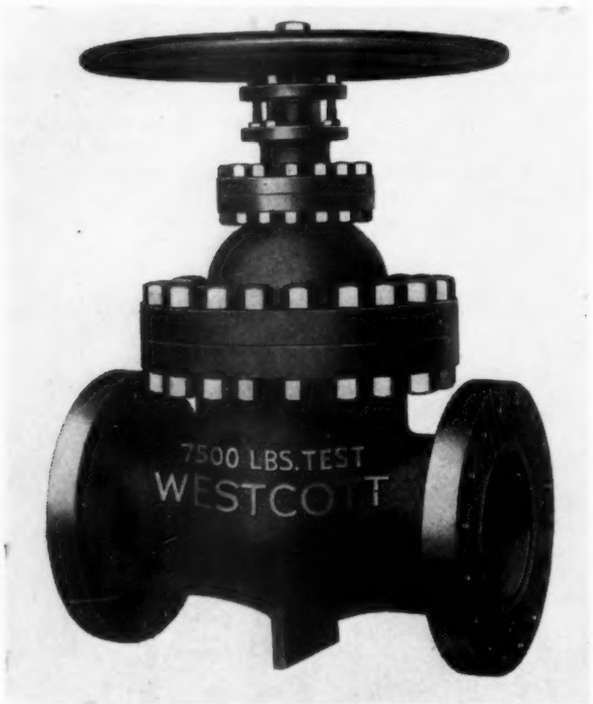
Imperial Brass Manufacturing Company, Chicago, is displaying the No. 15 Imperial duplex welding and cutting outfit which is claimed to be fully adequate for handling all welding and cutting for which the process is adapted. This outfit consists of a complete No. 11 Imperial welding outfit and also includes a Type R Imperial cutting torch with 4 type R copper cutting tips and an extra pair of goggles and 25-foot length of hose.

Baldwin-Duckworth Chain Corporation

SERVICE CHAINS

Baldwin-Duckworth Chain Corporation, Worcester, Mass., is showing the new Baldwin deep well super service chains 1030 SS and 1240 SS, which are the latest development in chain design for oil well drilling. Alloy steels heat treated, are used in constructing these chains. A patented pin lock has overcome objections previously found in the riveted or cotter pin type oil well chains. These chains embody straight side bar construction and precision machining of all parts.

Westcott Valve Company



GATE VALVE

Westcott Valve Company, East St. Louis, Illinois, is showing the new gasketless gate valve, the joints being ground and tapered. The disc is of the solid wedge type with the tee head in connection with the stem. The wedge is free and floating until seated. The tee block is of manganese bronze with the bottom forming a ball and socket at the top of the wedge. The wedge is accurately machined and provided with heavy bronze slides operating along a machined steel guide in the body. This method prevents friction because of the superior action of bronze against steel. The surfaces are ground to perfect fits and not only reduce friction but securely pack the stem below the stuffing box. The bronze and steel combination is used in the stuffing box sleeve which is accurately ground to close limits both inside and outside and is provided with ball and socket joint with the gland plate. A special blow-out feature in the bonnet and body of each valve is openings which open tangentially with the inner curves. Into these openings a ¾-inch pipe can be connected and the interior of the valve completely cleaned by steam.

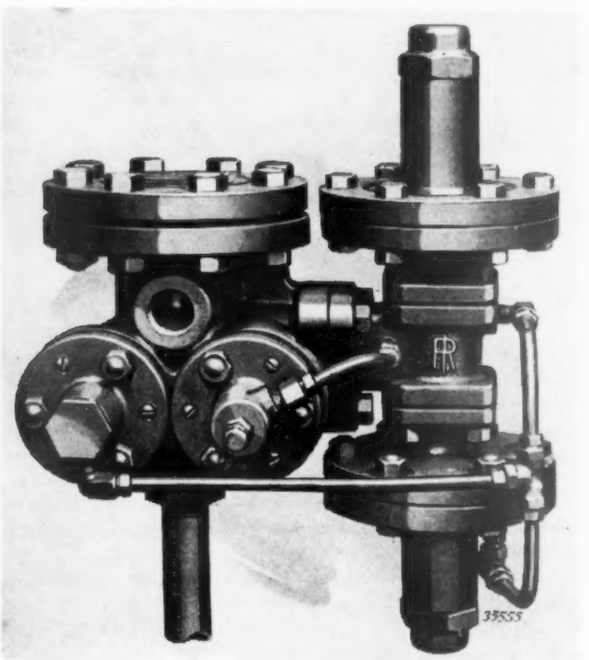
Ingersoll-Rand Company

AUTOMATIC CONTROL

Ingersoll-Rand Company, New York City, is showing the Maxiflo, an automatic control for flowing oil wells by air or gas lift. This device is being shown for the first time and is exhibited operating a miniature well. Compressed air for flowing purposes is supplied by a Type 30 electric-driven air-cooled compressor, which is a new unit in the Ingersoll-Rand line of compressors.

The Maxiflow operates on the principle of fluid level control. It flows wells whenever and as often as the fluid level reaches a predetermined point. When the trap fills up to the desired pumping level, pressure conveyed to the surface through a small-diameter pipe actuates valves which admit high-pressure air or gas to the well. The flowing results from a combination of displacement and air or gas lift. When the trap is emptied of oil, the increased velocity of the air or gas actuates valves in the Maxiflo which cut off the supply of air or gas to the well.

This piece of equipment has no timing devices, being strictly automatic. The only moving part in the well is a ball inlet valve in the trap. This opens and closes only once during each pumping cycle. The pumping process is practically continuous and is unaffected by sand that may enter the trap with the oil. No pressure is exerted on the producing formation at any time.



Maxiflow Automatic Control

Merco Nordstrom Valve Company

FLANGED JOINT

Merco Nordstrom Valve Company, San Francisco, has on display a new type flanged joint that has been developed for use in connection with welded pipe lines where a flanged joint is required to provide for the insertion of valves and fittings or the taking off of outlets. This flange consists of a drop-forged steel flange fitted to a drop forged, tapered nipple on which the flange may be rotated, permitting the alignment of bolts, etc. The tapered nipple which is drop-forged from a solid steel billet, permits of a design which incorporates much greater than pipe thickness at the base of the nipple where the highest stress occurs and which being formed completely at the proper forging temperature eliminates any possible fracture of the metal during the forging operation. By thus forging from the solid billet, sufficient heat may be stored up in the steel to permit completion of the operation at the proper forging temperature. The swivel flange offers an additional advantage where the service requires a special alloy steel. In this case the tapered nipple is forged from the alloy, while the flange may be forged from ordinary steel, thus permitting a highly efficient, flanged joint.

Drop of "cut" oil, magnified 70 diameters, one of many distinct types analyzed and treated by Petreco engineers . . . no two alike in constituents, gravity, etc.

-but a Petreco technician accurately PRE-DETERMINING facts that take the guesswork out of "cut oil" treatment

PETRECO Engineers will tell YOU, from analysis of your own "cut" oil, the process best adapted for full recovery of values, and the cost.

The PETRECO PROCESS OF ELECTRICAL DEHYDRATION recovers ALL the oil from the emulsion, and restores the entire production to its original gravity. The process and the method of applying it in each instance, is based upon experience of more than 20 years, during which time hundreds of different types of emulsions have been successfully treated.

Petreco Engineers have developed a very high degree of precision in their work, and their advice will prove of inestimable value to every producer. Complete and dependable information will be promptly furnished without cost or obligation. Send for Bulletin No. 30-3.

Fully covered by process and apparatus patents.

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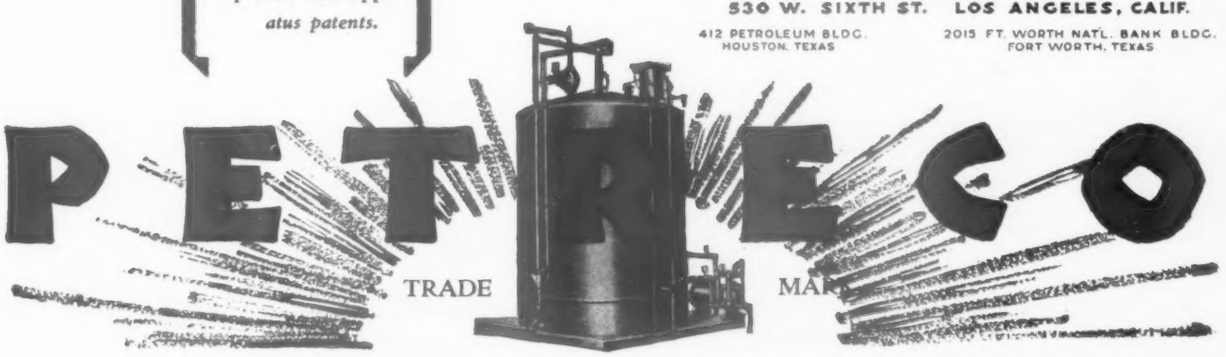
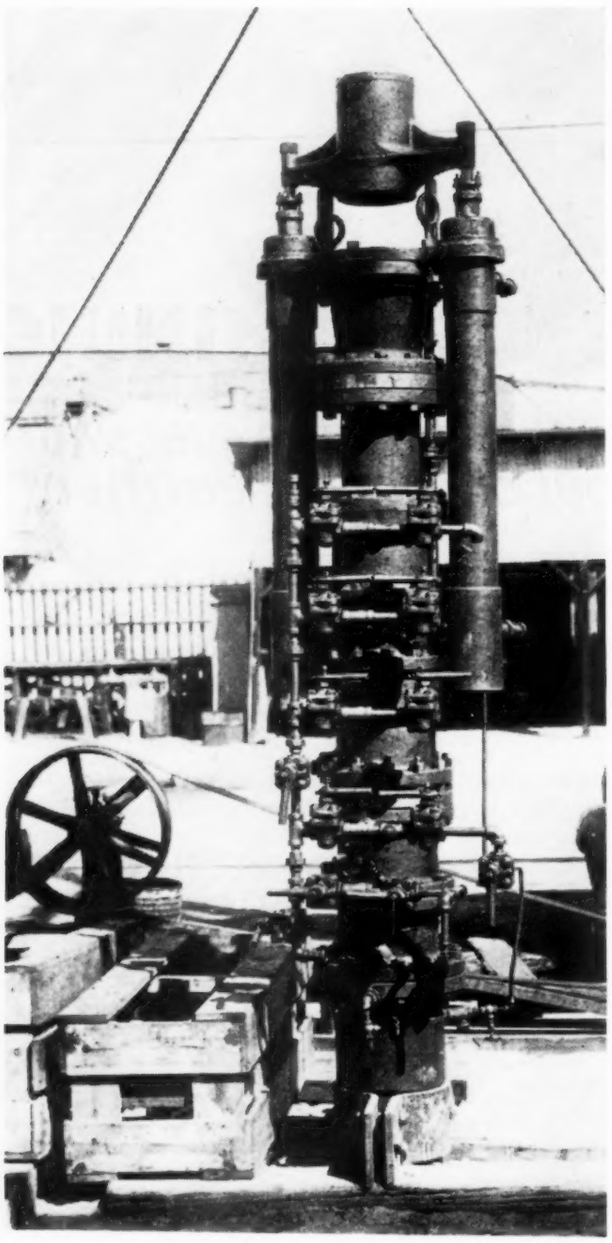


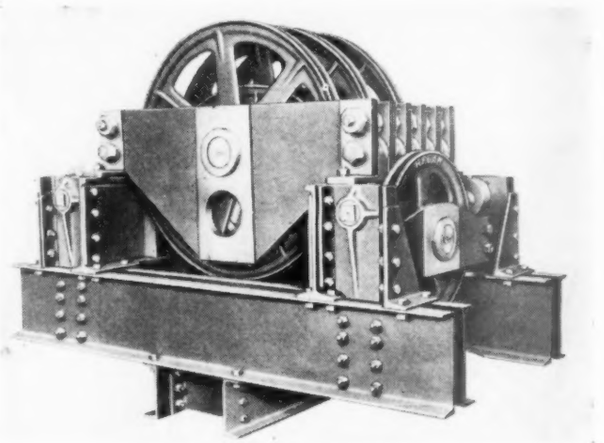
Regan Sales Company

Regan Sales Company, Dallas, Texas, has erected and equipped a steel derrick with a complete line of Regan devices, including a crown block, traveling block, spring casing hook and control equipment.

The tubing gas controller is used for running tubing against pressure. In newly completed wells the tubing can be run against pressure and also in producing wells without stopping the flow of the well. Regular upset and graduated tubing can be run by means of this device. In addition to this display there are several tubing heads being shown. One of these heads is known as the adjustable type which permits the raising and lowering of tubing while the well flows without the necessity of killing the well. The new nine-sheave crown block is being shown for the first time also. As a companion to this block a Regan six-sheave block is being displayed. Various types of control heads, gas controllers and blow-out preventors form still another part of the exhibit.

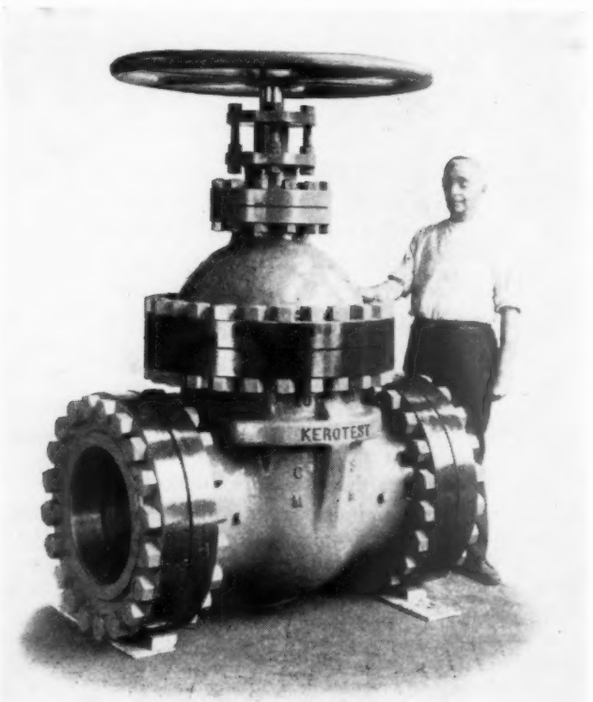


Regan Tubing Gas Controller



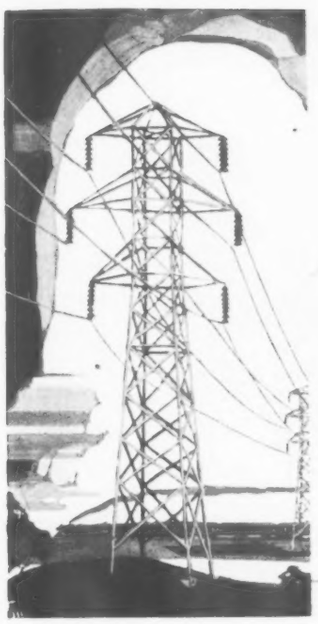
REGAN CROWN BLOCK

Kerotest Manufacturing Company



VALVES

Kerotest Manufacturing Company, Pittsburgh, is exhibiting a size 20-inch, 3000 pound test, flanged end drilling valve which is a duplicate of the valves used in the high pressure gas areas at Buttonwillow and Kettleman Hills, California, and in Trinidad and Venezuela. This represents the world's largest high pressure valve and weighs 10,000 pounds. This valve has been subjected to the 24-hour test under 3000 pounds constant pressure per square inch.



POWER

to unlock nature's treasure vaults

Nature has decreed that in proportion to the worth of its treasures, in that proportion must man pay for finding them. Oil, one of Nature's greatest treasures, taxes all the resources of man's mind to find it and to capture it. Electricity plays a prominent part in both. Its use is indispensable in the geophysical methods for locating salt domes. It provides the power for the producing, pipe line, and refining branches of the industry.

Nature's treasure vaults of oil were constructed through eons of time in geological yesterday. In America, Equatorial waters mingled with those of the Arctic flowing down to the sea, depositing layer upon layer of microscopic plants and animals. Ages of sedimentary deposits have buried deep these oil-bearing infusoria. It is fitting that electric power, the pinnacle of man's scientific endeavor, should be used to capture Nature's hidden potential power, oil.

Our engineers will be glad to supply you with complete information on the use of electric power in the producing, pipe line, or refining branches of the industry.

GULF STATES
UTILITIES COMPANY

General Offices

BEAUMONT, TEXAS LAKE CHARLES, LA.

Jensen Brothers Manufacturing Co.

PUMP JACK

Jensen Brothers Manufacturing Company is exhibiting a Number 14 Jensen straight-lift electric pump jack equipped with a multiple V-belt drive and a 10 horsepower electric motor. These machines can be furnished in five different sizes—from the number six for 1000 feet of two-inch tubing to the number 22 to pump 5000-foot wells, and can be equipped with either a multiple V-belt or a worm gear drive.

The machine can be driven with an electric motor, a gas or gasoline motor or a Diesel engine.

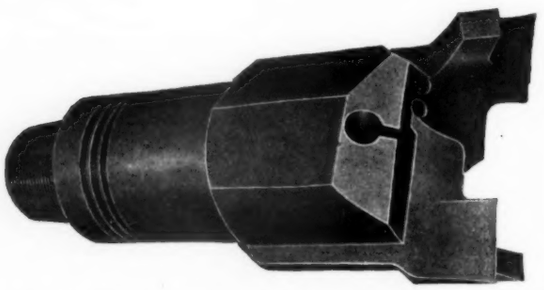
The gears are mounted on anti-friction bearings which run in a bath of oil. Another feature of the jack is the combination of counterbalances. The crank arms are counter balanced to give an even stroke and distribution of power. Weights are placed on the beam with a two to one leverage on the well.

Globe Oil Tool Company

EXPANSION BIT

Globe Oil Tools Company is showing along with its regular line of rock bits, underreamers, drilling bits and coring equipment a new expansion bit designed to eliminate underreaming.

These bits are made in two styles, "type one" and "type two," the first one to be used when a maximum full-gauged hole is desired without the necessity of underreaming and the second for use when more footage with faster drilling time and with less weight is of greater importance than a full-gauged, over-sized hole. The expansion of the bit is accomplished by a lateral, upward movement of the cutters due to weight being applied. These cutters are held in place by a cylindrical rib operating in a groove in the head, running approximately on a 30-degree angle from the vertical. The only function of the bolt is to carry a part of the actual weight of the cutter when they are in the contracted position.

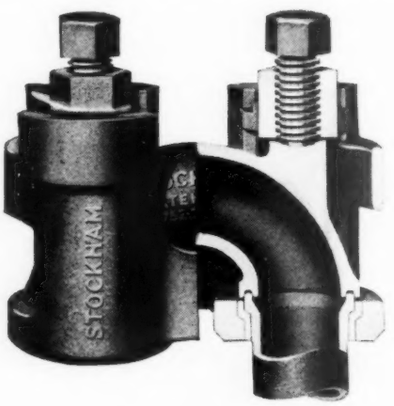


The collapsed position of the bit is usually about one inch under the diameter of the pipe or hole through which it passes, and due to this fact it is never necessary to do any reaming in order to get on bottom.

NEW DISC BIT

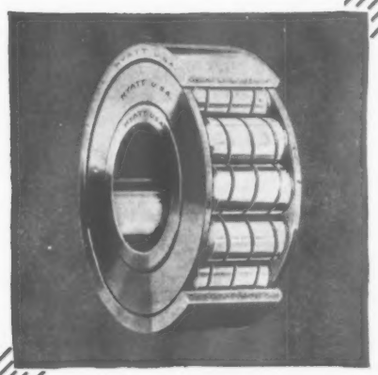
The new disc bit, in addition to having the usual cutting action of an ordinary disc bit, also has two outside cones, acting as both reamer and cutter, which keep the hole out to full gauge when the hard shale and shells are encountered. Continuous rolling action of the discs is assured by reason of the fact that the cones and discs function as an integral part when made up together, and the contact of the roller cone with the formation forces the discs to rotate. The bit has a positive locking action which prevents cones or discs from coming loose and dropping in the hole. The discs, bit shank and cones are made of the highest grade materials, carefully machined and properly heat treated.

Stockham Pipe and Fittings Company



RETURN BEND

Stockham Pipe & Fittings Company, Birmingham, Alabama, is showing a line of cast iron, malleable and steel pipe fittings for every oil field requirement. In addition to these displays the company is exhibiting the Stockham return bend for cracking stills. One of the features of the bend is that the ends of the tube are upset rather than turned back, making it possible to remove any single tube without damaging any of the adjacent tubes. With this bend the "U" piece is separate from the yoke. The "U" piece is the only part of the bend which is in actual contact with the hot oil and consequently the only part of the assembly which is subject to the destructive elements of heat and corrosion. The "U" piece can be replaced at any time with a minimum of effort. These bends are made to meet practically any specifications for size, pressure and temperature.



ALL your mechanical equipment needs the kind of protection that Hyatt Roller Bearings afford.

Longer bearing life, smoother operation, capacity to withstand punishment and unusual strains, freedom from constant oiling, adjustments, and shut downs for bearing repairs—these are the advantages of Hyatt protection.

The Hyatt Roller Bearings that are in service on practically every type of equipment today are proving the worth-while economies effected by these better bearings.

Specify Hyatt Roller Bearings on your next order for new equipment. Hyatt protection, you will find, is a profitable investment.

HYATT ROLLER BEARING COMPANY

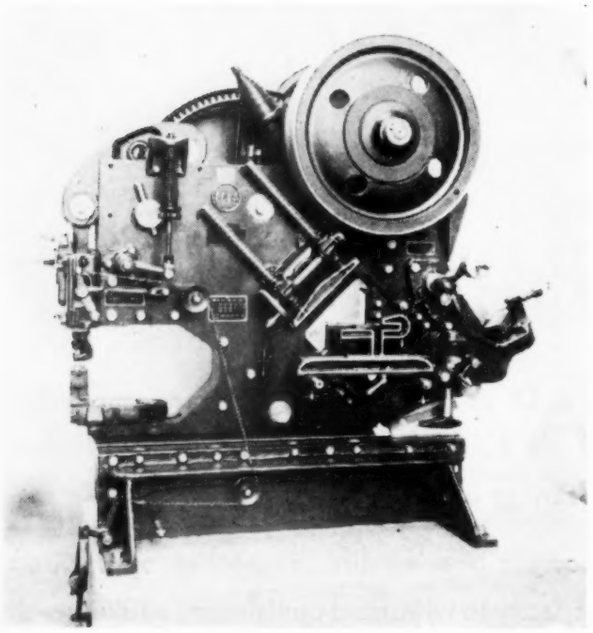
Newark Detroit Chicago Pittsburgh Oakland

HYATT

ROLLER BEARINGS

PRODUCT OF GENERAL MOTORS

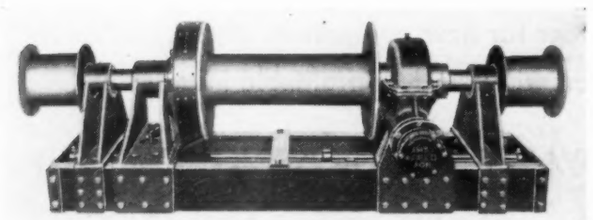
Henry Pels & Company



PUNCHING MACHINE

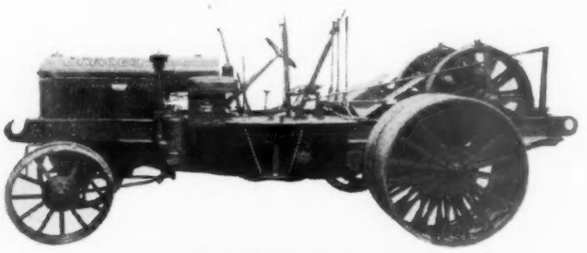
Henry Pels & Company, New York City, is showing the Pels Type MAE-16 quadruple combined punch, splitting shear, bar, angle, and tee cutter, with built-in notcher. The machine has a guaranteed unbreakable steel frame, making it well suited to the steel fabricating operations incidental to the construction, maintenance and repair of petroleum refineries and large industrial plants, tank cars and conveying equipment. One five h.p. motor is ample for operating the machine which will shear 4½ by 4½ by ½ inches or six by four by ⅜ angles and tees, ⅝-inch plates, and punches 1-1/16-inch holes through ⅝-inch steel.

Braden Steel & Winch Company



BIG BERTHA WINCH

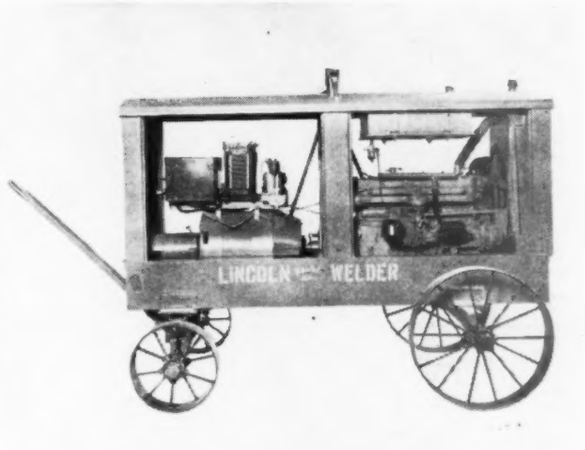
Braden Steel & Winch Company, Tulsa, is exhibiting the Big Bertha oilfield winch which is designed especially for rod and tube pulling on deep wells. This machine is powered by the 15-30 McCormick Deering tractor engine and by means of a patented counter shaft arrangement. There is available six pulling speeds from 60 to 634 feet per minute. Proper weight distribution makes roading positive. The Big Bertha drum assembly is applied to heavy duty truck units employing the truck engine for winch power.



TRUCK WINCHES

In addition to the regular line of truck winches, the new model 41 is being exhibited. This model is equipped with automatic safety brake which prevents the drum from rotating backwards when under load. When equipped with the automatic safety brake the load must be lowered by engine power. The most important steel parts in Braden winches are perfected to the point where it is possible for the company to guarantee against breakage or bending for the full period of installation upon original truck.

Big Three Welding & Equipment Company



LINCOLN WELDER

Big Three Welding & Equipment Company, Fort Worth, Texas, is exhibiting in conjunction with Lincoln Electric Company, the latest type 400 to 600 ampere Lincoln arc welder, which is designed for pipe line welding. This welder is heavily constructed throughout, is mounted so as to be mobile and is operated by a four-cylinder engine with direct drive.

The Permutit Company

WATER SOFTENER

The Permutit Company, New York City, is showing a model installation of Permutit water softener and filter. An actual small size water softener is being shown with separator attached. Two kinds of Ranarex machines, a carbon dioxide machine and recorder and a gas density machine are included in the exhibit. The gas density machine measures mechanically the specific gravity of gases passing through it.

America's Standard

for all tubular requirements of the Oil and Gas Industry

NATIONAL A. P. I.
CASING
DRILL PIPE
TUBING
LINE PIPE
COUPLINGS
and
REFINERY PIPING

NATIONAL TUBE COMPANY—PITTSBURGH, PA.

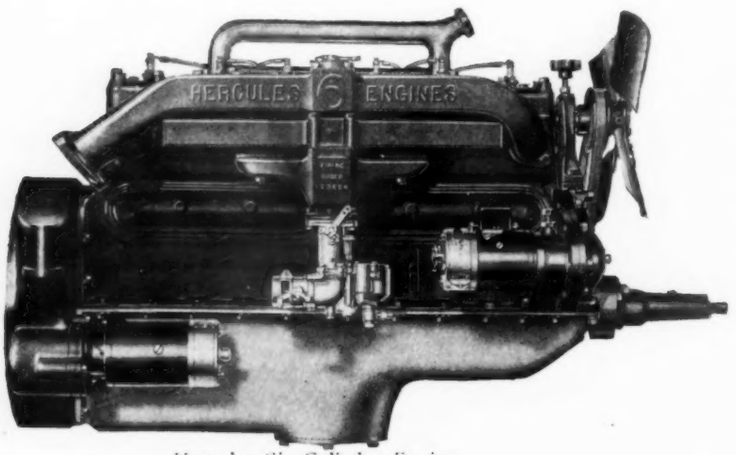
Subsidiary of United States Steel Corporation

NATIONAL PIPE

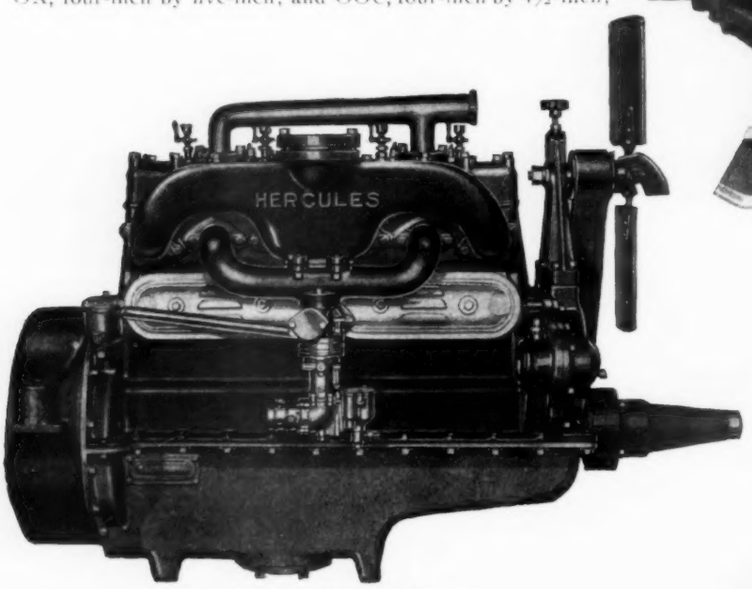
Hercules Motors Corporation

HERCULES ENGINES

Hercules Motors Corporation, Canton, Ohio, is displaying a complete line of heavy duty four and six-cylinder engines and power units. The following Hercules engines are being shown: Four cylinder models: OOC, four-inch by 4½-inch; TX, 5½ inch by seven inch; Six-cylinder moddels: YXC, 4⅜-inch by 4¾-inch. The Hercules power units which are being shown are: Four-cylinder models: OX, four-inch by five-inch; and OOC, four-inch by 4½-inch; six cylinder model, YXC, 4⅜-inch by 4¾-inch. All of the power units are finished in yellow and black, the characteristic color of all Hercules engines and power units. An interesting feature of the exhibit is an oil field type of power unit operating on natural gas. This is the model TXO, four-cylinder, 6⅜-inch by seven-inch, equipped with the necessary apparatus for operating on this type of fuel. Another feature is a model OXC engine arranged as a Fordson tractor engine replacement. In addition to the assembled engines and power units, Hercules is showing a full line of parts for all makes of engines put out by this company.



Hercules Six-Cylinder Engine

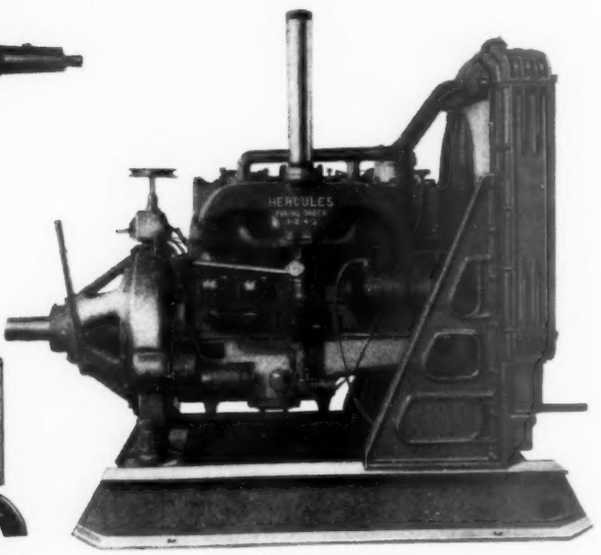


Hercules Four-Cylinder Engine

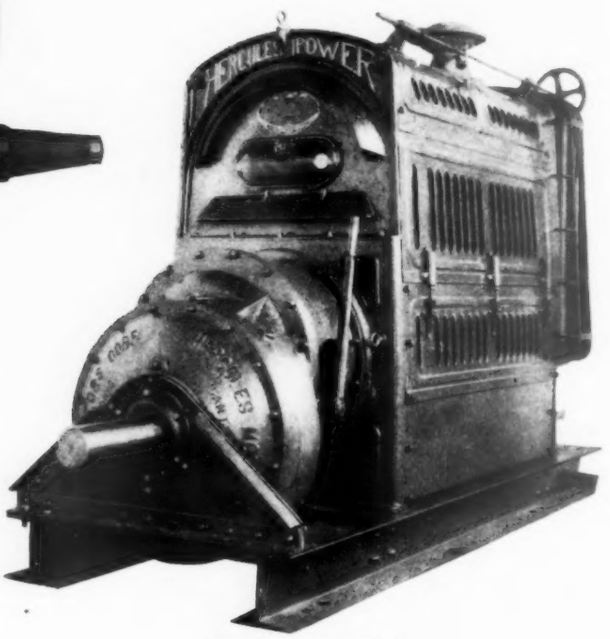
Leland Equipment Company

DITCHERS

Leland Equipment Company, Tulsa, in connection with National Equipment Company is showing the Insley and Parsons machines, the C. H. & E. pumps, Koehring and Smith concrete mixers and Schramm compressors and General Electric welders. There are shown also a complete sand blasting outfit and pneumatic tools and accessories for use with the Schramm. The truck equipment of the display is featured by the new six-wheel attachment and the new tanden axle Spencer trailer of 12-ton capacity. There are three Parsons ditchers being shown—the "25," a full multiplane medium range trench model; the "31," large full-multiplane ditcher, and the "35."



Hercules Power Unit

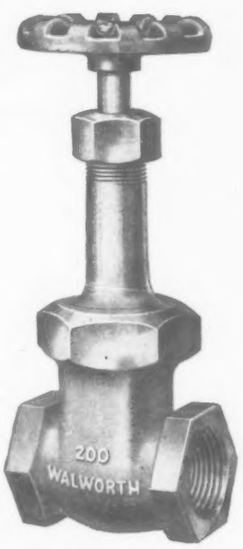


Hercules Power Unit

The Walworth Company

VALVES

The Walworth Company, Boston, Massachusettes, is showing two new bronze gate valves made especially for the oil industry. In addition to these valves the company is displaying its complete line of bronze, steel and iron body valves for production, refinery and pipe line service.



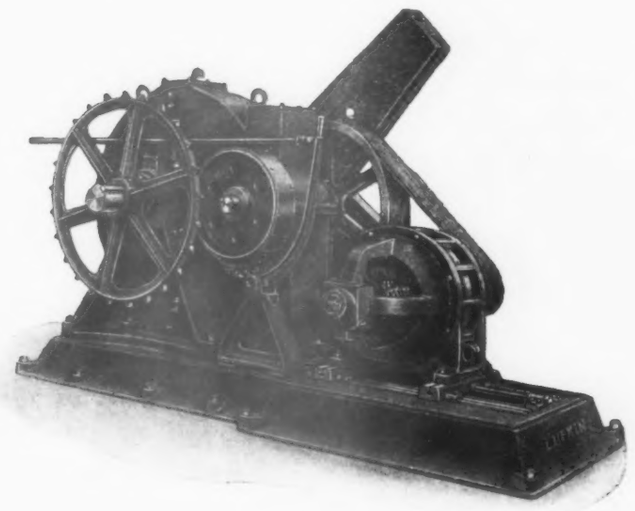
Sectioned valves, mounted on swivel stands, are installed for inspection. The drilling gates and line gates are all steel valves for top-of-the-well service, recommended for working pressures ranging from 500 to 3000 pounds. These valves are equipped with the new tiller type band wheels, with protruding spokes to facilitate operation in an emergency. The valves are made of Walworth Sigma steel, the product of a special foundry technique developed through the use of X-Ray studies to determine the interior defects commonly found in ordinary steel casings.

The new bronze valves are 150 pounds and 200 pounds W.S.P. double disc gate valves, rated for 225 and 275 pounds working oil and gas pressures, respectively. The disc operates on a ball and socket joint principle. The 200-pound valve, with union bonnet, is available with Sigmalloy 222 renewable seat and discs.

WALCO WRENCH

The new Walco wrench has the design and shape of the Stillson wrench, but is made of all drop forged steel with bar and frame in one piece. This enables the wrench to withstand much more severe shocks and strains, such as are imparted when the wrench is used as a hammer, lifting tool, crow-bar, etc.

Lufkin Foundry and Machine Company



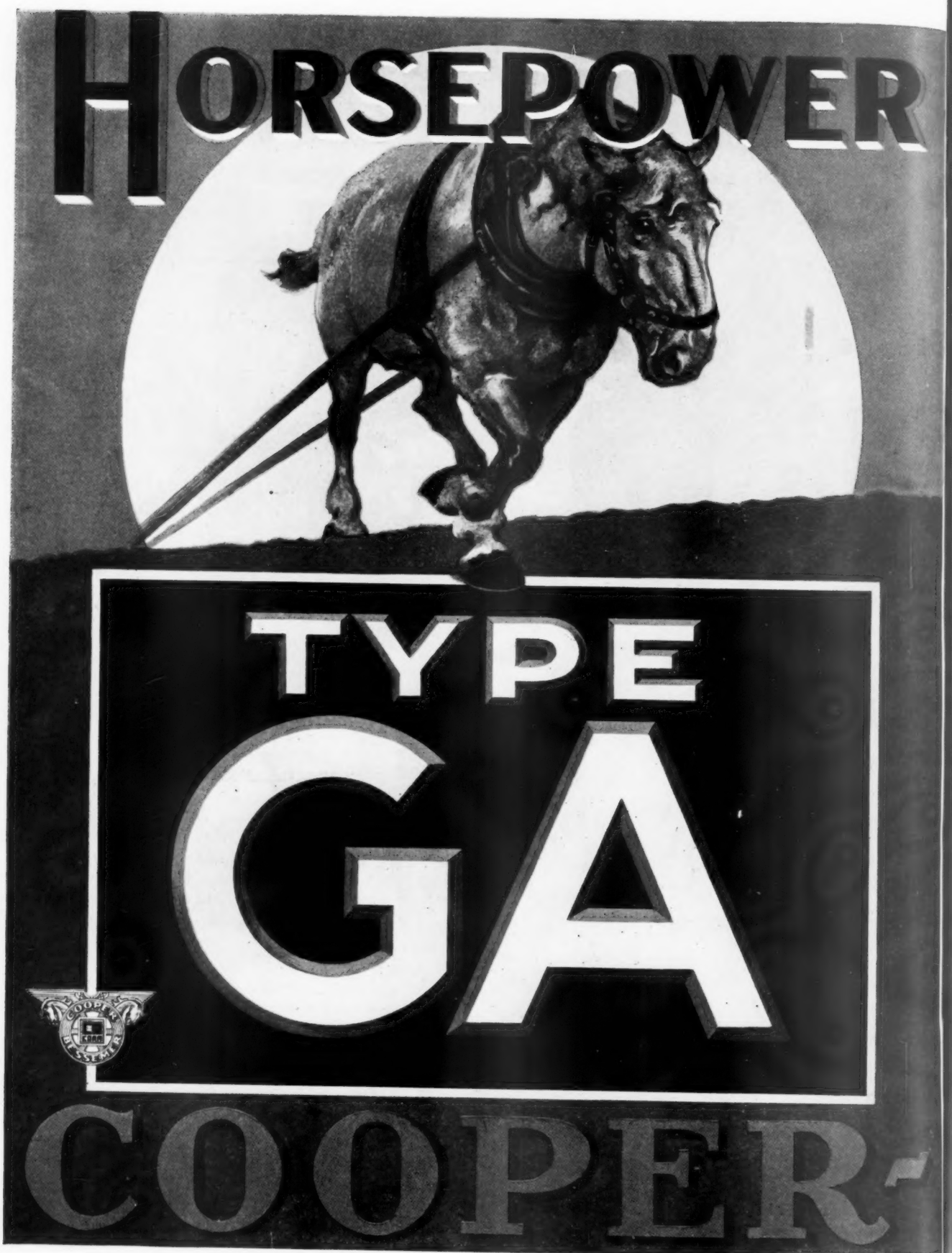
SYKES-HERRINGBONE UNIT

Lufkin Foundry and Machine Company, Lufkin, Texas, is exhibiting the new Sykes-Herringbone unit for pumping, pulling and drilling. Some of the features of this unit are the herringbone gears which are heavily constructed, freedom from backlash, continuity of tooth contact and mixiumum tooth surface. This unit is easily adaptable to any type of drive and particularly to single cylinder gas engines. This equipment also has the right "fall" for cable tool drilling. The gears are made of a special alloy steel heat treated, and a special process of machining insures the gears will be matched. The machine is heavily constructed throughout.

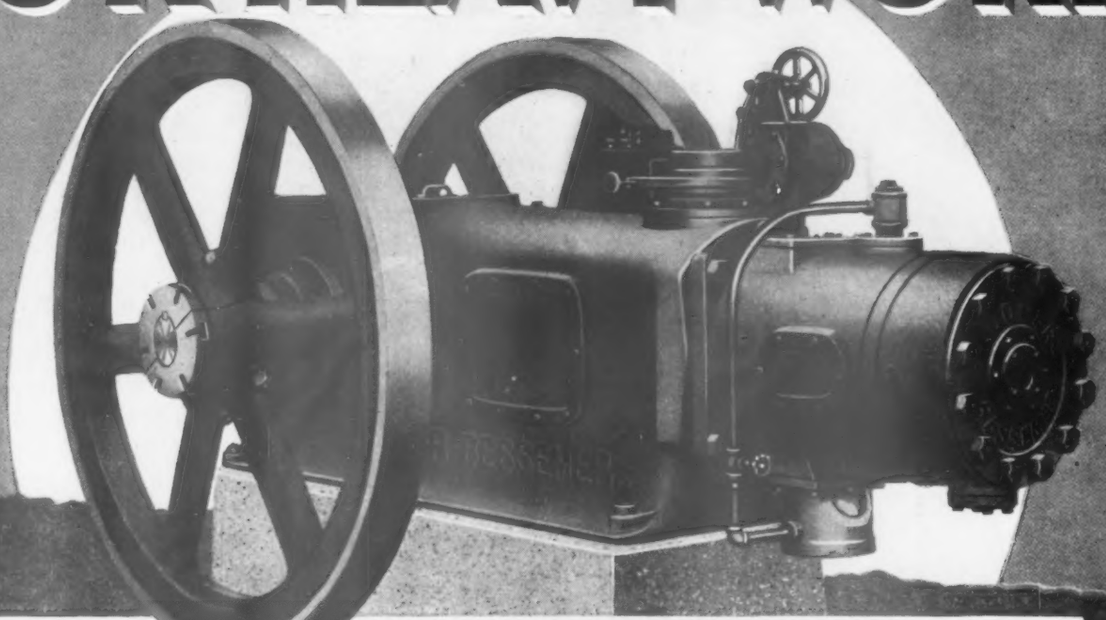
Republic Steel Corporation

PIPE

Republic Steel Corporation is exhibiting Republic electric weld pipe, Toncan iron pipe, Toncan iron in other forms such as rivets and plates, Enduro KA2 stainless in still tubes and other forms, Agathon alloy steels as used in rock bits, and other drilling tools and equipment.


HORSEPOWER
TYPE
GA
COOPER-

FOR HEAVY WORK



PUMPING AND DRILLING ENGINES

Fresh at every sunrise . . . fresh at every sundown . . . this 40 husky horsepower engine stays on the load—continually earning its modest keep many times over. If you want vigorous and obedient pumping and drilling horsepower that seldom knows ailment — no matter how hard you drive it — Type GA is the engine for you. Investigate its thoroughly engineered features. Six are listed below:

1. Timken main roller bearings.
2. A die-forged, over-size crankshaft.
3. A more rigid and stronger main frame.
4. A greatly improved governor.
5. Improved piston rod packing.
6. Safety stop operating on ignition.

THE COOPER-BESSEMER CORPORATION

MOUNT VERNON, OHIO GROVE CITY, PA.

Branch offices in all principal oil and gas fields

YOU'RE ALWAYS SAFE IN CHOOSING A COOPER-BESSEMER

BESSEMER

Spang & Company

Friction Socket *Grab* *Wire Rope Knife* *Casing Ripper*

SPANG GRAB

Spang & Company, Butler, Pennsylvania, has on display a new grab fishing tool which has movable teeth that makes it possible to get leverage action enough to hold broken or detached tools that may be in the well. The grab is also being produced for use on rotary equipment and is provided with means for water outlet.

CASING RIPPER

The ripper is used for splitting the casing out of a coupling. A joint connection at either end makes it possible to reverse the ripper so that cutting may be effected in an upward direction when necessary.

FRICTION SOCKET AND WIRE ROPE KNIFE

This company is also showing a new friction socket in which the depressions are spiral. The down-cutting trip wire rope knife is built to give maximum strength to all parts required of an instrument of this kind.

The Prescott Company

SLUSH PUMP

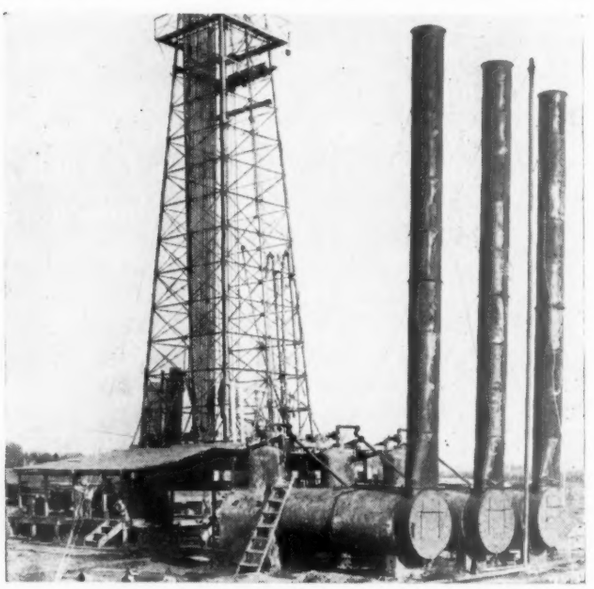
The Prescott Company is showing a seven by 20-inch piston type, duplex, double acting, power driven slush pump, direct connected by means of a fast coupling to a 225 H.P. Westinghouse steam turbine. The normal speed of this pump is 45 revolutions and any form of motive power such as the electric motor, steam turbine and Diesel or gasoline engine with a speed of not more than 900 r.p.m. may be used, without any intermediate drive between the pump pinion shaft and the motive power. This reduction is accomplished by means of two sets of gears in the power frame of the pump; the initial set being spiral bevel gears, and the intermediate set, single helical gears. The reduction from the driver to the pump is approximately 20 to one.

The main shaft of this pump is mounted in SKF self-aligning roller bearings, while the intermediate pinion shaft, as well as the pinion shaft, are mounted in SKF roller and ball thrust bearings. The fluid end of this pump is designed for a continuous working pressure of 1000 pounds per square inch, and all parts of the power end are designed for a continuous load of 200 H.P.

Eagle Picher Lead Company

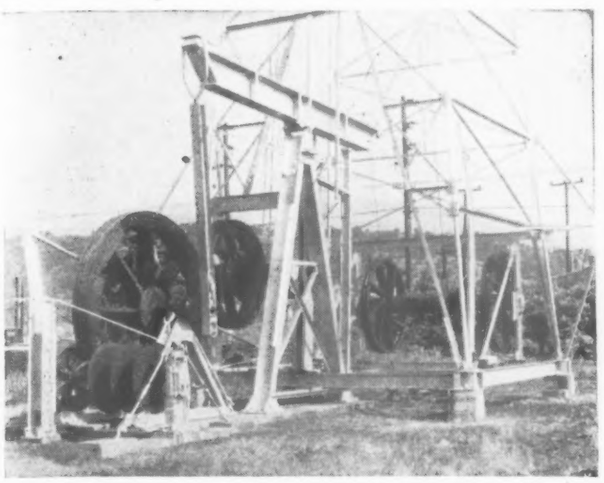
INSULATION CEMENT

Eagle Picher Lead Company, Joplin, Missouri, is showing Eagle "66" insulation cement which is handled throughout Oklahoma and Kansas by the L-M Utilities Company of Tulsa. This product which is made up of pure Eagle insulating wool, long asbestos fibers and clay, will adhere to any clean surface either hot or cold. This material can be applied while the boiler is in actual operation. It is claimed that on drilling boilers with a steam pressure of 300 pounds and a temperature of 424° F., 1½ inches of this insulation will give a saving of 92 per cent of the heat losses. Tests made on drilling boilers show that savings in water and fuel consumption were claimed to have averaged 22 to 28 per cent during the summer months and



as high as 45 per cent in the winter months. Features of this cement permit the moving of the boiler from one location to another without excess loss of material, a mixture of the cement and water being sufficient to cover breaks or holes suffered during the move. The coat is made as heat-proof as when first job was applied.

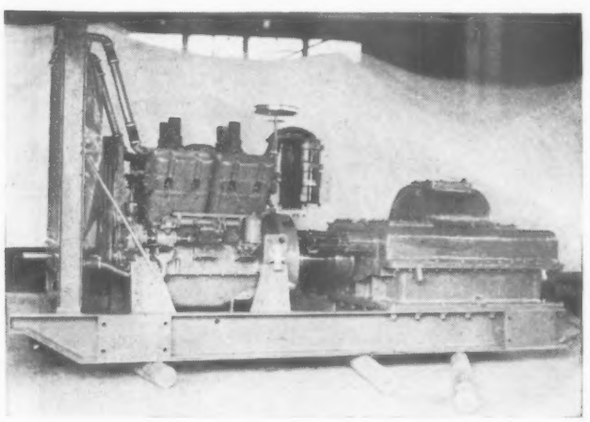
Lee C. Moore & Company



DERRICK

Lee C. Moore & Company, Tulsa, is exhibiting a miniature model of the Moore Champion derrick by means of which the method of construction of the derrick may be conveniently studied. Two new derricks, one of 122-foot height and the other of 87-foot, are erected on the grounds. Two new all-steel rig fronts have been announced by this company, designated as types 90 and 91. They are of "A" frame construction and are braced and welded to give adequate strength and rigidity under the most severe conditions.

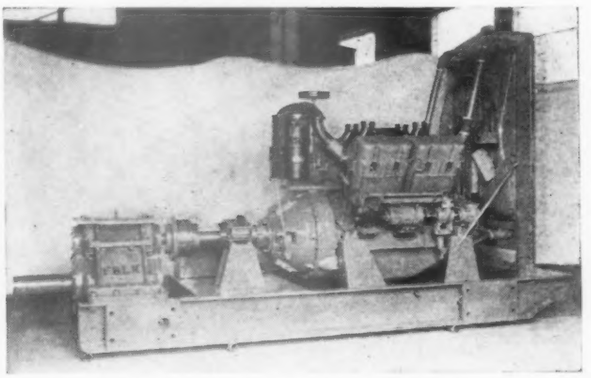
Page Oil Field Equipment Company



DRILLING UNIT

Page Oil Field Equipment Company, Oklahoma City, is showing a heavy duty drilling engine manufactured by Le Roi Company of Milwaukee, which has been designed for all drilling conditions. Important features of this engine are duplication steam control, suplication of steam speeds and adaptability to different classes of drilling.

This duplication of steam control is accomplished through means of pneumatic clutches and remote electrical starting and ignition control. Through the adaptability of the remote control these units may be used in groups of one or two without affecting or slowing up the control of the drilling unit. In drilling to a depth below 4000 feet two units will handle this depth delivering 500 H.P. to the drawworks without sacrificing drilling speed.



MUD PUMP POWER UNIT

This unit consists of an eight-cylinder Le Roi engine with air or hand operated clutch. The engine develops 250 H.P. at 1000 R.P.M. with a maximum speed of 1400 R.P.M. For mud pump work the clutches are operated through remote air control from the derrick floor by the air cylinder. On deep hole work the units are used in pairs, rigged up side by side connecting the two power take-off shafts together as one unit, with another sprocket running to the mud pump countershaft. This means that both transmissions are running all the time, permitting the operation of both engines, or either one of the two, as may be needed.

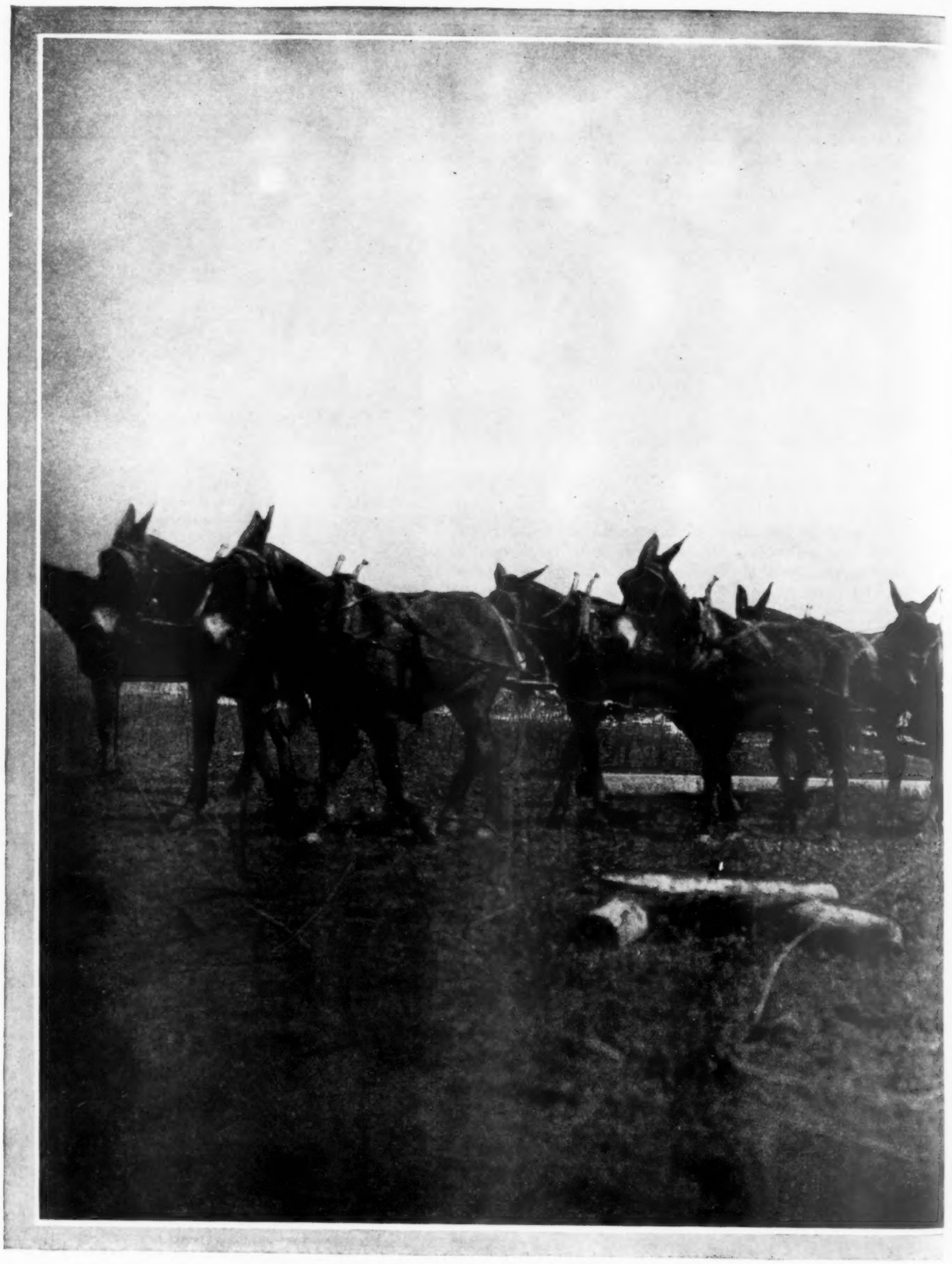
Domestic Engine and Pump Company

PUMPS

Domestic Engine and Pump Company has on exhibit a complete line of the latest diaphragm pumps, plunger force pumps, gasoline transfer pumps, centrifugal pumps and high pressure force pumps. The automatic priming centrifugal pump is designed to handle not only clear water but such debris as rags, leaves, sticks and stones. No priming is necessary to start this type of pump. Vertical suction lifts are effected up to and including 27 feet.

HIGH PRESSURE FORCE PUMPS

These pumps are equipped with porcelain lined cylinders and hydraulically expanding packing. This packing is attached to the plunger rod of the pump which is made of stainless steel and is so designed that the packing expands in exact ratio to the hydraulic pressure against which the pump is working, and is deflated on the suction stroke. This construction reduces frictional losses within the pump itself to a marked degree.



SMITH*WELDED*

TOUGH

The ability of SMITH-Welded Line Pipe to stand rough treatment saves many minutes—minutes that quickly mount into more miles of completed pipe line.

A. O. SMITH CORPORATION
General Offices: Milwaukee, Wis.
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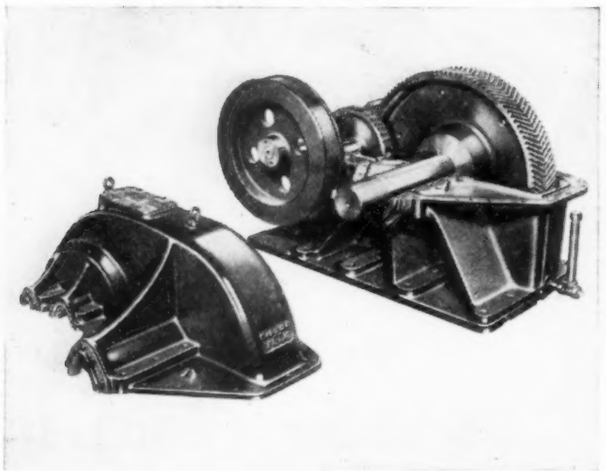
District Offices at:
New York · Tulsa · Houston · Los Angeles

LINE PIPE

Emsco Derrick & Equipment Company

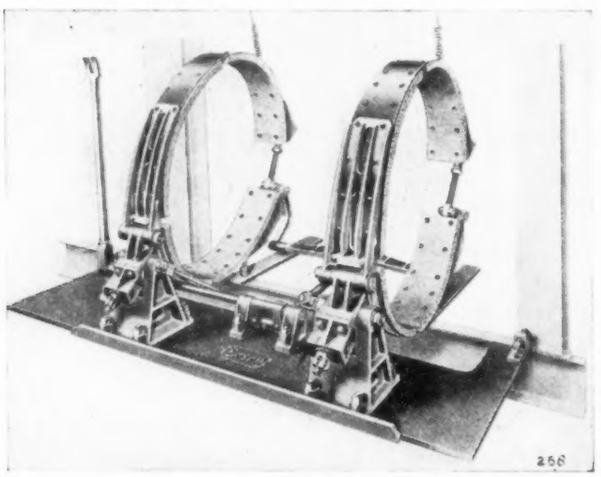


PUMPING UNITS

Emsco Derrick & Equipment Company, Los Angeles, is showing the Falk double reduction pumping units equipped with Falk Herringbone gears. The use of herringbone gears has brought about the required reduction necessary for pumping units of this type.

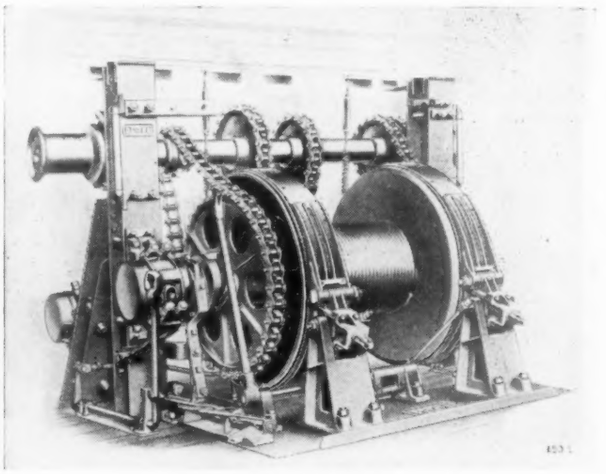
The low speed gear and the pinion are cut with continuous teeth and the design is such that there is no side thrust on the bearings and the construction places practically the same unit pressure on all the bearings. The bearings are of the "airplane" split sleeve type, and consist of a bronze backing which is centrifugally surfaced with the highest grade tin-based babbit.

A flywheel of generous proportions is placed on the high speed shaft on the opposite end from the Vulco Rope Pulley. The lower housing casting contains a large continuous trough which carries the oil splashed by the gears and circulates it through the bearings.



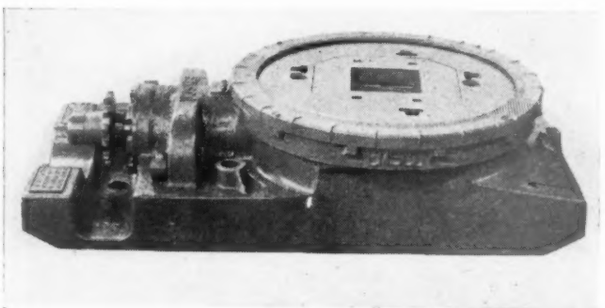
DRAW WORKS BRAKE

Each of the brake bands is made in two sections, consisting of a pliable steel blade with a casting at each end. The sections are joined in front by a pin and in the rear by a toggle mechanism. The crank on the shaft which actuates the draw bar is below the axis of the shaft and thus gives maximum clearance between the draw bar and spooling drum.



DRAW WORKS

The new draw works being shown has an increased drum capacity of 54 inches. By increasing the size of the brake wheels much greater braking area is obtained, and the capacity of the drum is increased. The new brake mechanism being used insures free spooling because the bands will not ride on the drums. Lubrication of all bearings is provided for by the Alemite system. This draw works is of the two-post, three-shaft type. Other features of the draw works are: extra, large grooved spooling drum, large non-bursting, steel brake rims, low chain drive, improved chain guards and four speeds.



ROTARY MACHINE

The rotary machine is featured by table enclosure, one piece base, table bearing, unitary bearing housing, solid hub sprocket and alloy steel parts. The machine is made of alloy steel parts, heavily constructed. Lubrication of the table assembly is effected by splash from the pinion. Rotation of the rollers and retainer insures complete distribution of the oil through the bearing at all table speeds.

Bethlehem Steel Company

PIPE

Bethlehem Steel Company is showing a line of Bethlehem pipe in various sizes together with photographic transparencies showing views of the plant. In addition to this pipe exhibit it has a dislay of alloy steels, corrosion resisting steels, and tool steels, special forgings, corrugated galvanized sheets, bolts and nuts, oil burning equipment and illustrations of forged steel drums for oil refineries.

Barber-Greene Company

DITCHERS

Barber-Greene Ditcher

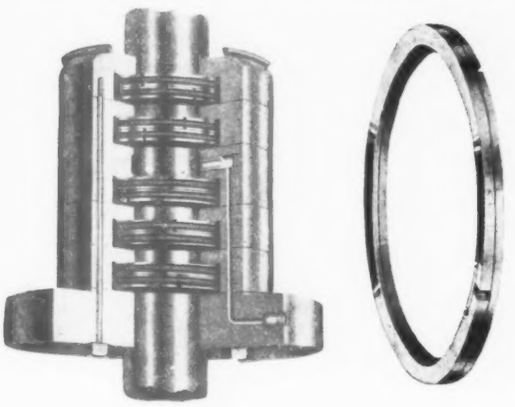
The display of the Barber-Greene Company, Aurora, Illinois, includes the new light utility ditcher and the new baby service special. The light utility ditcher is built with a vertical offset boom. By means of racks and pinions, the boom may be offset to either side of the machine while it is digging, thus enabling the ditcher to graze objects that would block a larger machine. This machine is specially suited to cutting gas and service lines. It is 16 feet six inches long overall, five feet nine inches wide, and eight feet eight inches high. It cuts a trench from eight inches to 15 inches wide, and four feet or five feet six inches deep. It is crawl-mounted, has self-cleaning buckets, and is protected against strains by a patented overload sprocket. A variable 10-speed transmission allows it to dig at a rate of from 18 inches to 11 feet two inches per minute.

The service special ditcher is only four feet wide and its traveling length is but 11 feet six inches. The boom makes a cut three feet deep. The weight of this machine is 7000 pounds. It has a wide range of digging speeds from 15 inches to 22 feet per minute, and cuts a trench from five inches to eight inches wide. This machine involves practically the same features as are found in the first machine mentioned. The follow-up scraper installed on both machines always insures a clean trench.

Barber-Greene Ditcher

C. Lee Cook Manufacturing Company

METALLIC PACKINGS AND PISTON RINGS



C. Lee Cook Manufacturing Company, Louisville Kentucky, is displaying a complete line of Cook's graphitic iron metallic rod packings and piston rings. The packing rings are of the full-floating type, which allows the unit to be out of alignment without disturbing the sealing effectiveness of the packing or causing friction and wear. Improved packings to serve the higher pressures prevailing in gas lift services and in the pumping of natural gas are also being shown.

In addition to the conventional snap piston rings, the "Cooktite" sealing ring, a recent piston ring invention, designed to more effectively hold the cylinder pressures in Diesel and gas engines, is available for inspection.

Walter O'Bannon Company

VALVE CUPS

Walter O'Bannon Company is featuring the valve cups which are made of a composition put through a process that insures a uniform, tough wall, flexible enough to expand evenly. These valve cups are made in all sizes to fit standard and patented working barrels to run in 2-inch, 2½-inch, three-inch and four-inch tubing.

CRO-LAY TUBES

In the O'Bannon Cro-Lay tube a layer of chromium is evenly applied to the inside polished surface. The surface of the tube is extremely hard, is smoother than polished steel and will not rust. Floating sand and corrosive elements in the fluid do not cut nor attack this surface. Other equipment being shown includes pumps and parts, rod tools, tubing tools and rotary pumps.

District Sales Managers:

W. E. GIBSON
801 Columbia Bank Bldg.
Pittsburgh, Pa.

J. P. COONEY
715-716 A. G. Bartlett Bldg.
Los Angeles, Cal.

H. A. MORSE
30 Church St.,
New York City, N. Y.

J. P. STEELE
305 Petroleum Bldg.,
Fort Worth, Texas

District Offices:

H. S. CHANCEY
2218 Mills Street, Houston, Texas

J. D. SWARTZ
1231 S. Evanston St., Tulsa, Oklahoma

E. L. MOSELEY
3114 Tenth St., Wichita Falls, Texas

District Warehouses:
Houston, Texas; Thenard, Cal.; San Francisco, Cal.

Distributors:

Prichard Supply Co.,
Mannington, W. Va., Mather and Waynesburg, Pa.

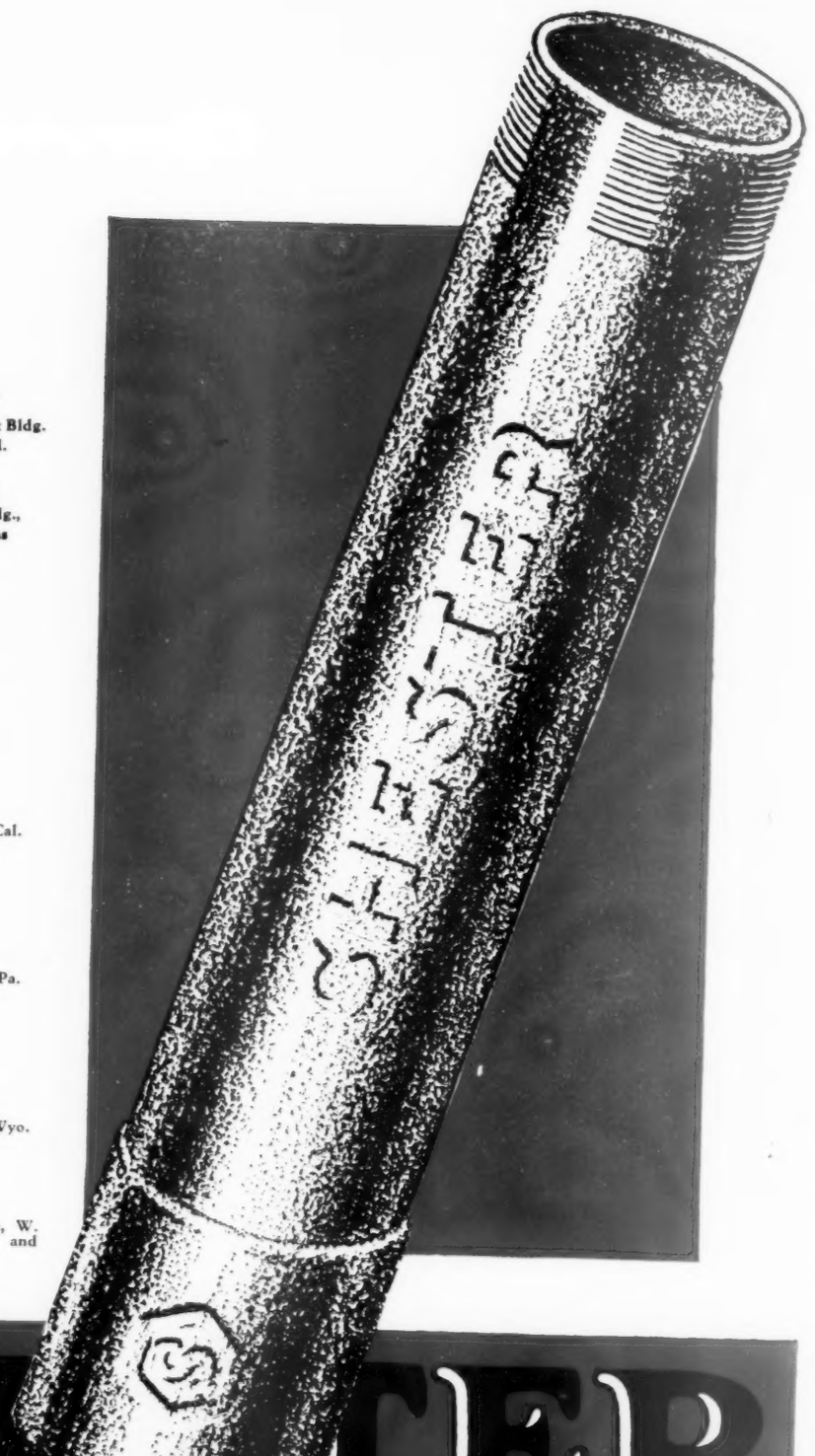
LeValley, McLeod, Kinkaid Co., Inc.,
Elmira and Olean, N. Y.

United Oil Well Supply Co.,
712 A. G. Bartlett Bldg., Los Angeles, Cal.

Great Northern Tool & Supply Co.,
Billings and Kevin, Mont., Kemmerer and Cody, Wyo.

Pelican Well Tool & Supply Co.,
Shreveport, La.

United Pipe & Supply Co.,
Charleston, W. Va., Danville, W. Va., West Hamlin, W. Va., Paintsville, Ky., Ashland, Ky., Allen, Ky., and Prestonburg, Ky.

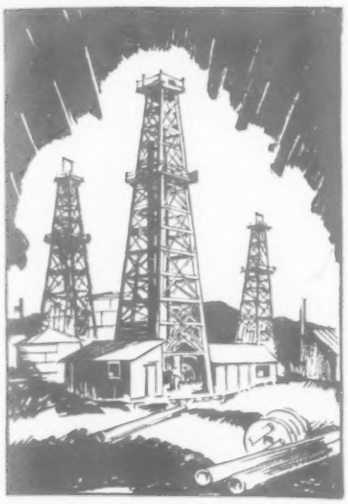


CH[illegible]TER

STEEL CASING

SPEC[illegible] IN CASING FOR DEEP WELL DRILLING

LINE PIPE



It has been our constant aim, for over thirty years, to produce line pipe and casing of the highest quality and workmanship—and at the same time maintain the quickest and best service possible to every customer.

Trainload shipments of Chester Line Pipe and Casing are convincing evidence of Chester popularity among oil operators—a popularity which has been built on the reliability of Chester performance and Chester service under the most severe conditions.

Prompt Service

Prompt deliveries can be made from large stocks carried at Houston, Texas; Thenard, California; Cody and Kemmerer, Wyoming; Kevin, Montana; Paintsville, Kentucky; Charleston and Danville, W. Virginia. Ask our office nearest you for complete particulars.

South Chester Tube Co.

Chester, Penna.

Chester also makes all classes of Genuine Wrought Iron Tubular Goods

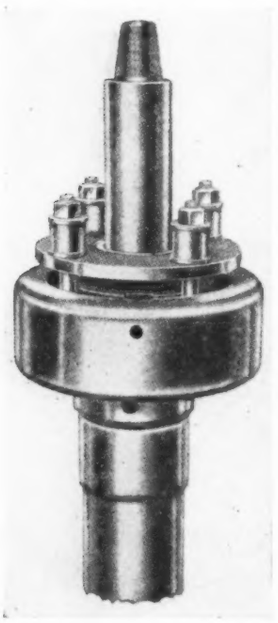
CHESTER

STEEL CASING

SPECIALISTS IN CASING FOR DEEP WELL DRILLING

LINE PIPE

Cameron Tool & Supply Company



Casing Drive Ring

Jar Down Slip Socket

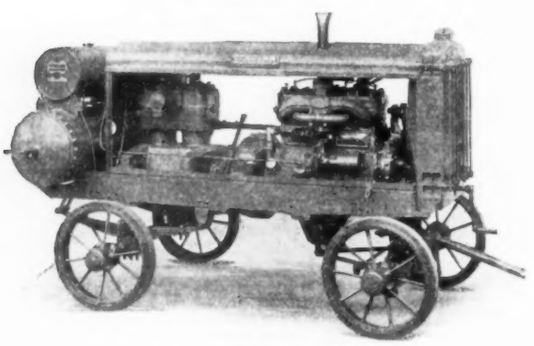
SAFETY CASING DRIVE RING

Cameron Tool & Supply Company, Cameron, West Virginia, has on display the safety casing drive ring which may be attached to any part of the drilling or drive stem. The ring will cate hand firmly hold either a two or four square pin, or any part of the round body of the stem. This eliminates all dealy and expense due to bolt breakage.

MONROE JAR DOWN SLIP SOCKET

The jar down slip socket is protected by outside slip assembly with full circle slips. It can jar both ways without danger of breaking hold. This socket is made in sizes from 10-inch hole and up to much larger sizes.

Schramm, Inc.

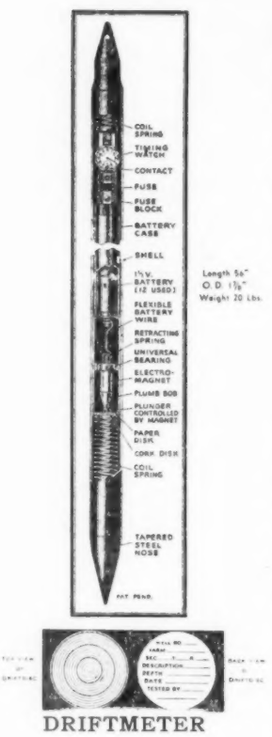


AIR COMPRESSOR

Schramm, Inc., West Chester, Pennsylvania, is showing the No. 120 portable air compressor which is of the multi-cylinder vertical type, and is single acting and single stage. The intake and discharge valves are of the disc type located in the cylinder head and easily accessible for inspection or removal. The crankcase on these compressors is removable so that adjustment to the main bearings can be accomplished without removal of the cylinders. Lubrication of the engine is by the splash, the oil being pumped from the strainer in the well end of the crankcase through the distributor pipes into the oil reservoir troughs. It is then picked up by the connecting rods and thrown to all parts of the crankcase.

The engines used in the air compressors are of the four-cylinder, four-cycle, heavy duty truck and tractor type, built by Buda Engine Company. Engines are equipped with Eisemann high tension magneto with impulse starter to prevent kick-back when cranking the units. Stromberg carburetors are used on all models.

Driftmeter, Inc.



DRIFTMETER

Driftmeter, Inc., Tulsa, is exhibiting the Driftmeter which makes a complete record of a well in one run. The recording apparatus is located on the surface and by the operation of a push button shows the deflection in degrees off perpendicular, at any point instantly. This instrument requires a special electrical cable, special winch and reel, mounted on a suitable truck.

DRIFTMETER JUNIOR

The necessity for a lighter instrument led to the development of the Driftmeter Junior which has a shell made of steel and fitted with bullet shaped end pieces. The top end is provided with a screw connection and copper gasket to prevent leakage. The lower end is sealed and should not be removed. The electro-magnetic pendulum is suspended on universal bearings above a paper disc. It consists of a solenoid type electro-magnet provided with a movable core plunger, which terminates in a sharp point. When energized by the flow of current from the batteries the magnet thrusts the needle against the disc, perforating the paper, thereby recording the position of the shell.

Battery case contains 12 1½-volt flashlight cells, no wiring being necessary since the connection is made automatically when batteries are in place. The timing and contact mechanism consists of a watch, magnet, fuse and pendulum which all function upon proper contact to operate the recording needle.

Pyrene Manufacturing Company

FIRE EXTINGUISHERS

Pyrene Manufacturing Company is showing a line of fire extinguishers, including the 2½-gallon Phomene foam type, Guardene soda and acid extinguishers, Phomene accumulators and the 10 and 40-gallon portable Phomene extinguishers on wheels. Cut-out sections of the one-quart and 1½-quart Pyrene fire extinguishers are also shown. The new Pyrene bracket for mounting the one-pint extinguisher on the steering post of an automobile is included in the exhibit.

Resistcor Engineering Corporation

PIPE WRAPPING MACHINE

Resistcor Engineering Corporation, Tulsa, is displaying the new pipe wrapping machine which applies felt to pipe lines at the rate of 30 feet of line per minute. This machine is made in two models, Model A and Model B. The Model A is for use in wrapping two to 10-inch lines. Model B is used for wrapping lines of 12 inches or more. The smaller machine is hand operated while the larger one is operated by a one-cylinder engine. Both models pass over the Dresser couplings without having to be removed from the line. A wiping mechanism, following the felt, removes the wrinkles to give a smooth wrap. There are rubber surfaced wheels on the line truck to protect the enamel-coated lines.

American Steel Works

PIPE BENDING SHIELD

American Steel Works, Kansas City, is showing a pipe bending shield which is made from heavy sheet steel lined with asbestos fiber board, complete with chain and load binders. This device can be fired at each end or front, direct against the pipe. Shield can be clamped beside a pipe or on top of pipe wherever heat is needed. This shield comes in two sizes, for 22 inch and 20 inch pipe which is six feet long and the type eight feet long hich will handle 24 inch and 26 inch pipe size.

DOUBLE TORCH OUTFIT

The double torch outfit is furnished with 15 inch lengths of canvas braided metal lined flexible hose and will generate a heat temperature of 2140° F. in the open, 14 inches

from the end of the burner. The double bending torch outfits come complete with vertical tanks and two coilless type torches.

COILLESS OIL BURNER

The new coilless burner is made up of three parts, housing, vaporizing chamber and vaporizing fitting with tip. The full operation of the burner is inside of the shell, which can be operated in a very strong wind. This type of burner can be thoroughly cleaned without removing from its mounting. Other features of this exhibit are; asphalt heaters, pouring pots, pipe trowels, pipe cleaners and torches.

Patterson-Ballagh Corporation

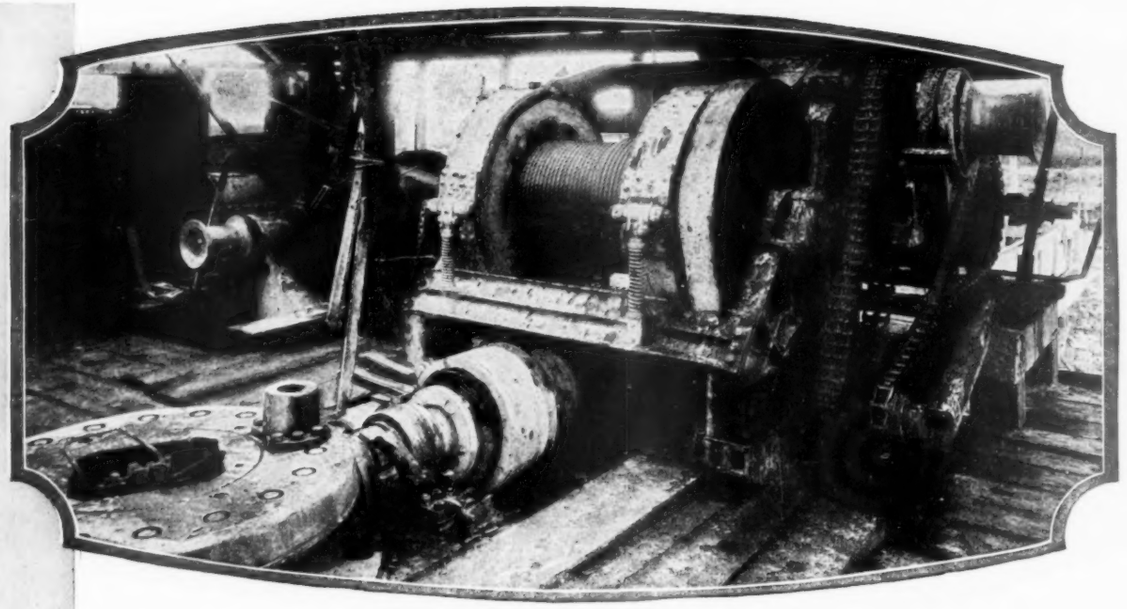
BETTUS PROTECTORS

Patterson-Ballagh Corporation, Los Angeles, is showing several models demonstrating the uses and properties of Bettis protectors and stabilizers. These devices are on display, as well as the tools employed to install them. Samples of the latest Bettis oversize protector are interesting to drillers who have problems dealing with very deep drilling. These protectors are claimed to have overcome one of the most hazardous problems that has confronted drillers in the last few years.

The Air Reduction Sales Company

CUTTING MACHINES

Air Reduction Sales Company is featuring working demonstrations of three of a line of motor driven oxy-acetylene cutting machines, the No. 1B Oxygraph, No. 1A Radiagraph, and the No. 4 Camograph. Airco Oxygen, Airco Acetylene and the complete line of Airco-D-B hand welding and cutting apparatus are also on exhibit and actual pipe welding and hard-surfacing operations are being conducted.



Sheldon-Burden Type H Rotary Drilling Machine

Type H Machine drilling in Louisiana using gasoline engines for power. Note reverse gear to left of machine and the chain drive to the bailing reel which is mounted back of the draw-works.

A GEAR-DRIVEN deep well rotary drilling machine with principal parts mounted on one substantial steel base to provide quick and easy moving and rigging up. Rotary table, draw-works and steam engine or electric motor are easily removable from base and transportated as separate units when desired.

Special high speed steam engine or electric motor and gear box are mounted back of draw-works on the steel base of the machine when steam or electric power is used. When gasoline or Diesel engines are used, the reverse gear is mounted in the corner of the derrick and the chain from it is connected to the rear shaft of the machine. The engines (and double hook-up if desired) are placed on the ground or on a platform along side of the derrick.

The rotary table is shaft driven and controlled by a friction clutch which can be set to slip before the pipe twists off. The friction clutch can be instantaneously engaged or disengaged at any shaft speed, thus making for ease of operation and safety.

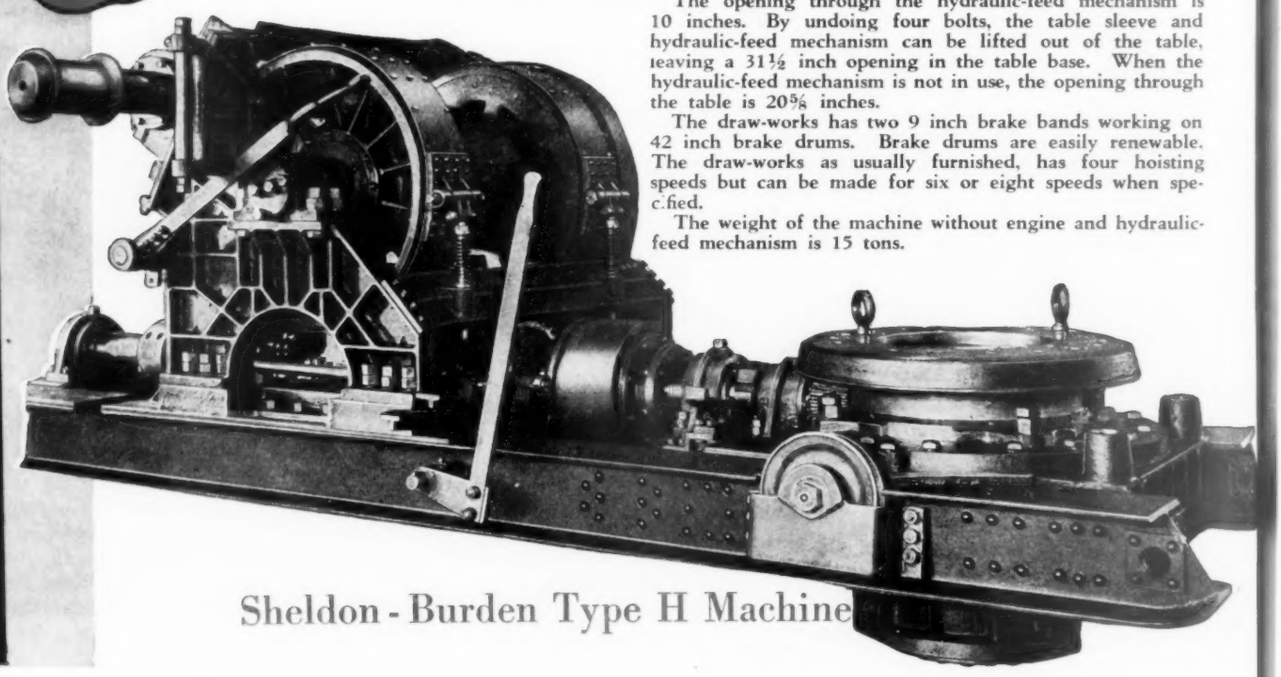
The shaft drive to the table eliminates the usual chain across the derrick floor and permits a wide range of table speeds from the slowest up to 250 r.p.m.

The rotary table may be used as a regular rotary table or with the Sheldon-Burden Type Hydraulic-Feed Mechanism.

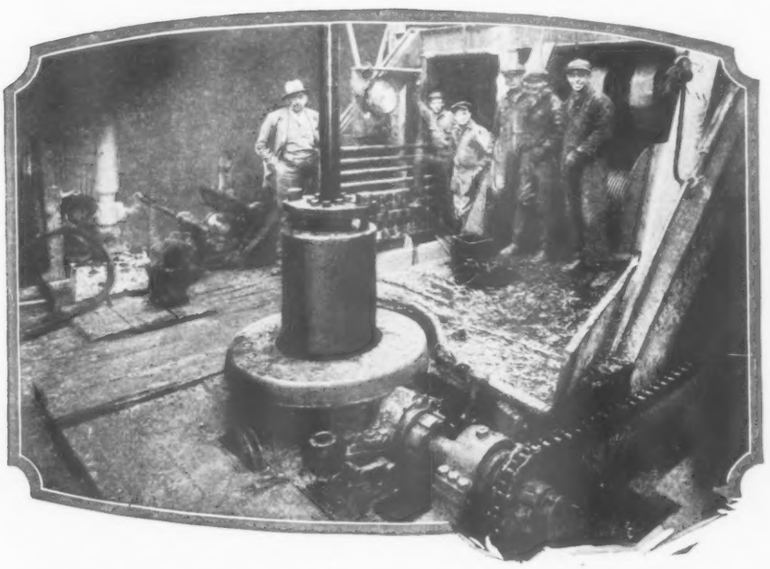
The opening through the hydraulic-feed mechanism is 10 inches. By undoing four bolts, the table sleeve and hydraulic-feed mechanism can be lifted out of the table, leaving a 31½ inch opening in the table base. When the hydraulic-feed mechanism is not in use, the opening through the table is 20⅝ inches.

The draw-works has two 9 inch brake bands working on 42 inch brake drums. Brake drums are easily renewable. The draw-works as usually furnished, has four hoisting speeds but can be made for six or eight speeds when specified.

The weight of the machine without engine and hydraulic-feed mechanism is 15 tons.

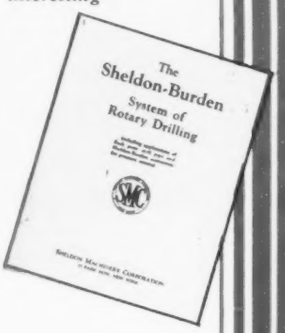


Sheldon-Burden Type H Machine



Drilling in Canada at depths of over 5000 feet with rock bits in hard lime. Gas pressures up to 2500 lbs. were encountered. Straight holes were drilled where other equipment was unable to complete the wells due to crooked holes, and frequent sticking of the pipe from settlings.

Write for this interesting Book on Rotary Drilling



Sheldon-Burden Type HR Rotary Table

for use with any regular type draw-works and engine

TYPE HR Rotary Table is designed for use with any of the regular type rotary rigs. This permits you to get many of the advantages of the hydraulic-feed mechanism while still using the old type equipment. Some of the many advantages of the Sheldon-Burden Type Hydraulic-Feed Mechanism are:

(1) Drills straighter holes more easily.

(2) Can drill upwards through cavings.

(3) Can press downwards on the bit to make up for lack of pipe weight.

(4) Increases footage obtained from various type bits by keeping accurate and proper bit pressure.

(5) Can be used as 100-ton capacity hydraulic jack when working stuck pipe.

(6) Indicates immediately when passing from soft to hard formation or vice-versa.

(7) Is a super-sensitive and accurate weight indicator.

(8) It can keep pipe moving while making connections or in case of machinery break-down.

(9) Feeds and rotates drill pipe while working against well pressure.

(10) Micrometer feed of hydraulic-feed mechanism produces better cores with less shattering or burning.

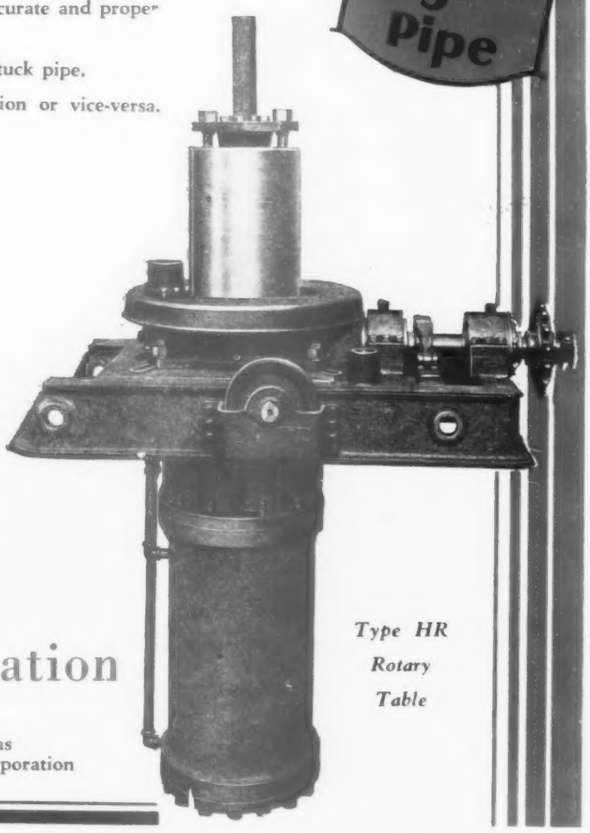
(11) Accurate feed of drill pipe assured regardless of depths and weight of pipe.

(12) Eliminates all rotating load on swivel bearing while drilling.

(13) Increases efficiency of the driller by giving accurate feed control without his holding the brake lever for long drilling periods.

(14) Permits safe snubbing of pipe out of hole against high well pressures.

Drill with Flush-Joint Pipe



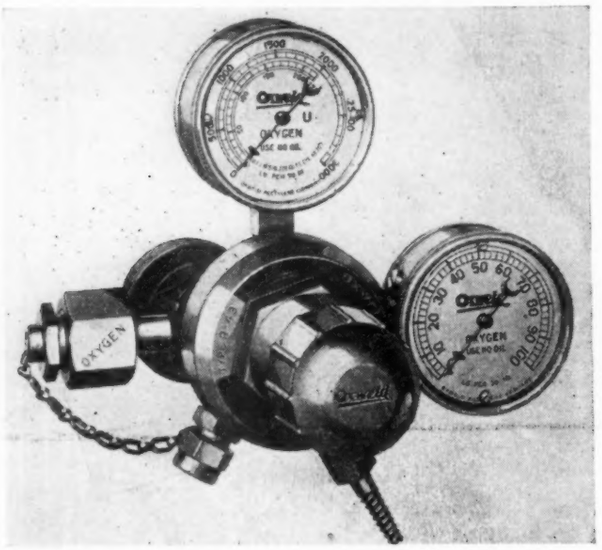
Type HR Rotary Table

Sheldon Machinery Corporation

15 Park Row, New York

Branch Office: 953 M and M Building, Houston, Texas
Distributors: Oil Well Supply Company, Lucey Products Corporation

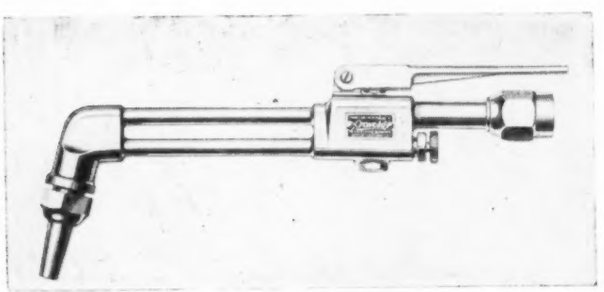
Union Carbide Company



OXYGEN REGULATOR

Union Carbide and Carbon Corporation, New York City, is showing an oxygen regulator which has a two-stage reduction, accomplished through two separate and independent sets of diaphragms, valves and springs.

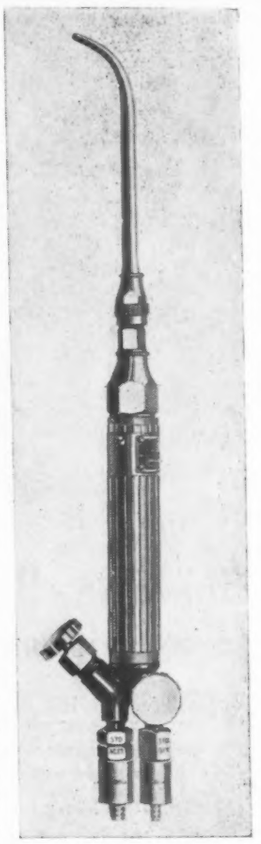
The full cylinder pressure of 2000 pounds enters the regulator through a stem-type valve and is controlled by the first stage diaphragm. In this stage the pressure is reduced to less than 250 pounds per square inch. This pressure will be constant for any one regulator, but varies somewhat with different regulators. The pressure here is non adjustable. The oxygen then passes from this first reduction assembly to a second stem-type valve and diaphragm assembly where the pressure is reduced to the working pressure desired by the operator. This pressure is regulated by the operator by means of the adjusting screw, and an operating pressure may be obtained without fluctuation.



Oxweld C W-17 Cutting Attachment

WELDING BLOWPIPE ATTACHMENTS

The type CW-17 attachment is claimed to enable the blowpipe to a reasonably wider range of cutting work. A long handle used for operating the cutting oxygen valve can be pulled forward parallel to the tubes so that the whole attachment may be carried around in the operator's pocket. The attachment has the same style stem locking nut as the welding head for the type W-17 blowpipe. The injector for the heating flames is contained in the attachment, just as the injectors are contained in the welding heads. At the rear of the attachment near the bottom is an adjusting screw, so that the oxygen for the heating flames may be regulated by the operator's thumb and forefinger while the blowpipe is in operation. The attachment is joined to the blowpipe handle in exactly the same manner as a welding head, that is, the lock nut can be tightened by hand and no wrench is necessary to join the attachment to the handle. Another attachment is supplied with two cutting nozzles. Another accessory which has been introduced for the first time is for use with the W-17 welding blowpipe makes it possible to use any of the welding heads available for the Oxweld W-15 sheet metal welding blowpipe with the type W-17 welding blowbipe handle. The adaptor contains passages for the oxygen and acetylene which fit tightly against the passages in the blowpipe handle. The other end of the adaptor is exactly the same as the end of a W-15 sheet metal blowpipe handle.



Oxweld W-17 Blowpipe Handle

Sivyer Steel Casting Company

STEEL CASTINGS

Sivyer Steel Casting Company, Milwaukee, is showing its line of equipment in conjunction with Federal Malleable Company and Chain Belt Company. In addition to displaying rough and machined alloy steel castings, this company is showing laboratory and metallurgical appliances in operation necessary to the production of high grade alloy steel castings.

Robert Bosch Magneto Company

MAGNETOS

Robert Bosch Magneto Company, Inc., Long Island City, New York, is exhibiting a full line of magnetos and spark plugs for a wide variety of engine requirements. These are furnished for all sizes of engines from fractional horsepower, single cylinder pumpers, to oil or gas power plants running to several thousand horsepower.

In addition there is also on display the latest types of Robert Bosch fuel pump and injection equipment for solid injection, Diesel type engines. These are now available for engines running from the smallest to over twenty inches cylinder bore. A feature of the exhibit is a set of this pump and injector equipment in actual operation in a transparent glass cylinder.

The Titusville Iron Works Company

COUNTER SHAFT CLUTCH

Titusville Iron Works Company, Titusville, Pennsylvania, is displaying a line of gas engines, drawworks, clutches, rotaries, steam engines and slush pumps. The counter shaft clutch is sprocket chain driven either from single or twin cylinder gas engines. The shaft is made of special alloy steel, heat treated, and is supported by two rigid pedestals which are part of the base. The pulley is made large enough to suit different requirements, having a 24-inch diameter and a 24-inch face. Chains and sprockets are completely covered by a dust and oil tight casing made in halves with hinge joints. Other features of this clutch include special process of manufacture of all gears and pinions from high grade steel, adjustable clutch pedestal allows for chain tension, brake drum has unusually large cavities which act as ventilating areas and extra provision has been made to insure against throwing of lubricant while in operation.

DRAW WORKS

This new, two-post, three-shaft type drawworks has a four-eight speed range, that is suitable for electric or steam drive. All parts of the drawworks are of heavy steel construction. Arrangement of sprockets on the jack shaft permit the use of the four lower speed and the four higher speed ranges. All bearings are Hyatt bearings mounted in self aligning boxes and are interchangeable. All clutches and sprockets can be removed without disturbing the bearings. The hoisting drum is made of one-piece steel and is of the non-spreading type with large diameter flanges for extra capacity spooling. Included among other features of this piece of equipment is the short distance between posts which makes the shafting stiffer, the brake and brake equalizing system, which is automatic and the horizontal chain drive for rotary.

ROTARY

One of the most important features of the rotary is the journaling of the gear table at top as well as on the bottom, the table is set on taper rollers and into the base where it is journaled at the bottom, the base forms a journal bearing for the lower part of the table. A novel hold-down ring is then placed at the top of the bevel gear and extends all the way around the table, forming a journal bearing for the upper part of the table. This construction holds the top of table as well as the bottom in line against horizontal and vertical displacements. All moving parts are housed in against the mud and run in an oil bath. Pinion and sprocket bearings are both housed in one box which is equipped with standard taper roller bearings.

SLUSH PUMP

The power slush pump involves the following features: Fluid end is interchangeable with latest design for steam power drive with cylinder, suction and discharge manifold cast separate; the power frame is of strong and durable construction; round bored guides are used in frame for locomotive type cast steel crossheads; the crank shaft is forged from vanadium steel and ground accurately to size; the connecting rod is of open hearth forged steel; the piston rod is provided with metallic oil wiper packing located at the end of the crank case; all moving parts are enclosed, oil tight, and large covers are provided for easy access, and the fluid end of the pump is given a 3000 pound test to prove that the gears, pinions, connecting rods, etc., are strong enough to meet the drilling requirements.

GAS AND STEAM ENGINES

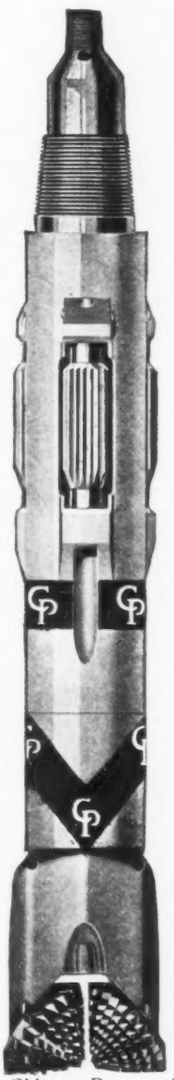
Besides the displays of drilling equipment on exhibit there are several gas and steam engines of the roller bearing twin-cylinder type. The steam engine embodies the features of extra heavy cylinder head, steam parts double reinforced top and bottom, valve lead adjustable, piston equipped with hammered piston rings, bored crossheads, large covers and extra large crank shaft. The two cycle gas engine has cylinders made of semi-steel, a water jacket which is large enough so that no blind pockets are allowed to retain solid matter, exhaust outlet which is an unusually large two-piece water jacketed nozzle, piston is made of semi-steel and is provided with six packing rings. The main frame is of very strong and compact construction and is lubricated by means of the splash system. Large and effective counterbalances are firmly secured to the crank arms with keys and body fitted bolts.

Chicago Pneumatic Tool Company

ROCK BIT

Chicago Pneumatic Tool Company, New York City, is showing the "Tucone" rock bit which is made of specially treated steel. This bit is designed to keep gauge, eliminate reaming and produce straight holes. Side-wall hydraulicking has been entirely eliminated by the proper direction of the fluid stream aided by a considerably greater clearance.

Other features of the bit include correct positioning of the reamers with respect to cutters; greater strength, rigidity, and wearing qualities of cones and reamers and bit and reamer bodies.



Chicago Pneumatic Rock Bit

Wickwire Spencer Sales Corporation

WIRE ROPE

Wickwire Spencer Sales Corporation, Tulsa, is exhibiting a complete line of wire rope for oil field use and is also showing various items manufactured by American Wire Fabrics Corporation, a subsidiary. These products include nearly every kind of manufactured article made by wire such as screen cloth, hardware cloth, clothes lines, poultry netting, etc.

Structural products also being exhibited include Clinto electric welded fabric, chain link fence, Wisco welding rods, perforated metal, card clothing, conveyor belts, coiled springs and all kinds of formed springs.

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PROVIDING both Sales and Rental Service everywhere, with prompt delivery assured by "A Branch In Every Oil Field." . . . And bringing together the most complete assortment of Rotary and Cable Oil and Gas Well Drilling and Fishing Tools, conveniently available through one dependable source. . . . . Bridgeport means QUALITY, the most dependable, trouble-free tools the World has yet produced. . . . . And by SERVICE simply this, with no alibis, failures or exceptions: the customer MUST get what he wants—WHEN and WHERE he needs it.

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CALL A BRIDGE-

BRIDGEPORT SWAN UNDERREAMERS PITTSBURGH SEAMLESS
HYCHROME ALLIS-CHALMERS WRIGHT ENGINES
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LUCEY ROTARY EQUIPMENT

Rotary and Cable Drilling and Fishing Tools

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BRIDGEPORT

BRANCHES THROUGHOUT THE OIL FIELDS

a Jump Ahead

PORT STORE

Bridgeport SERVICE and QUALITY are valuable allies in meeting your Production problems. Locate the nearest Bridgeport Store. Keep it always in mind. Let it help you. Then you will find YOURSELF always a jump ahead—with less trouble, faster progress, and fewer shut-downs.

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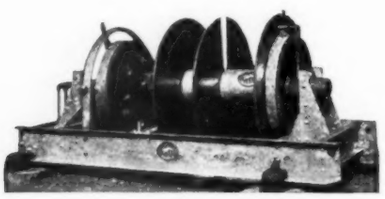
GENERAL OFFICES and PLANT, WICHITA KANSAS

BRANCHES THROUGHOUT THE OIL FIELDS

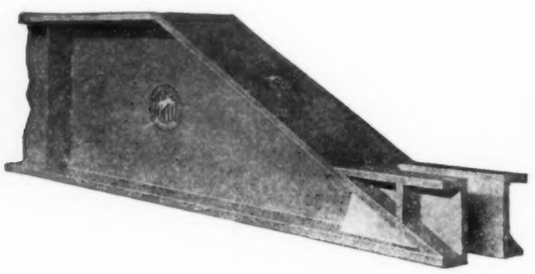
International Derrick and Equipment Company

The International Derrick and Equipment Company, Columbus, Ohio, is showing a water-cooled, chain driven, sand reel; the underslung or inverted type Ideco all-welded walking beam; the new Ideco reversible jackshaft; the Ideco super duty four-speed draw works; the Ideco "6" oilbath swivel; Ideco 27½ oil bath rotary; and the Ideco portable drilling rig, a new product.



SAND REEL

The water-cooled, chain driven sand reel for deep well service embodies the principal features of the Ideco solid and expansible drum sand reels as to structural frame, unit clutch and brake assembly, self-aligning roller or bronze bearings, simplicity of design and other mechanical features that effect many economies of operation over other types of sand reels. Two brakes are included, one a powerful service brake, the other an emergency brake. The water-cooled expansion brake drum used on the service brake has a hollow brake drum forming a water chamber through which the cooling water circulates and successfully dissipates the enormous amount of friction heat generated in handling the tremendous loads of deep well operations.

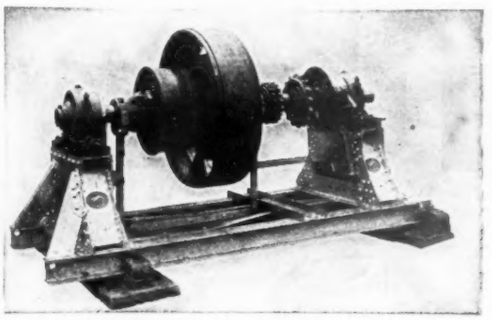


IDECO ALL-WELDED WALKING BEAM

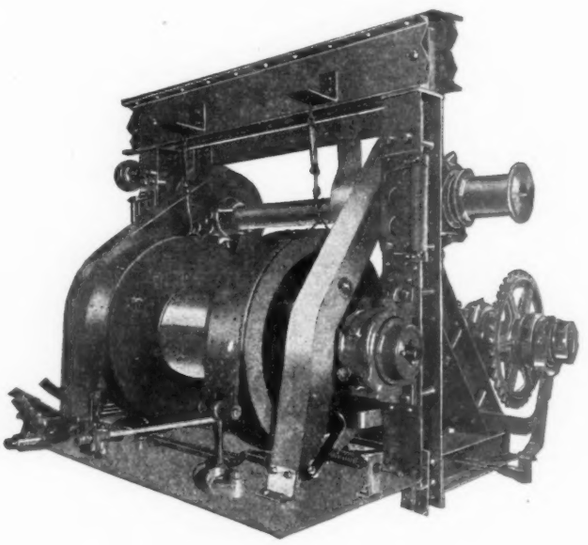
The underslung or inverted type Ideco all-welded walking beam on display, has the same general construction as the regular Ideco all-welded steel type beam, but has the working centers for the pitman and temper screws lowered, bringing them almost in alignment with the center line of the saddle trunnion by inverting the beam. This construction minimizes the depth of the arc described by the end of the beam during the stroke and consequently reduces the horizontal displacement of the polished rod.

IDECO REVERSIBLE JACKSHAFT

This jackshaft is designed for use with internal combustion engines or any non-reversible engine or electric power. Power is transmitted to the shaft through two internal expanding band-type, self-energizing friction clutches, one operating the forward and the other the reverse pulleys.



The clutch drums are mounted on straight roller bearings using hardened inner and outer races. Pulley rims of various sizes may be fastened to the forward clutch drum. One lever on the derrick floor controls both forward and reverse clutches, which cannot be engaged at the same time but may be disengaged simultaneously. A brake mounted on the jackshaft is provided for stopping the crank to facilitate attaching or removing the counterbalance or pitman and for convenience in pulling rods, swabbing, cleaning out, or in drilling operations. A. P. I. shafting is employed. Positive lubrication is obtained through use of the Alemite pressure lubrication system.



IDECO FOUR-SPEED DRAW WORKS

The company is also showing for the first time the new "super duty" two-post, three-shaft, four-speed draw works which is intended for drilling wells 12,000 feet and deeper.

All shafts are made of chrome nickel steel, heat treated. The shafts have full diameter between the bearings and are not turned down at clutches and sprockets. The shafts are mounted in heavy duty roller bearings. The bearing housings are made of alloy steel and are of the self- aligning type, which permits the bearing assembly to swivel sufficiently to insure perfect alignment with the axis of the shaft.

The spooling drum and heavily ribbed drum flanges are cast integrally, forming a well-balanced, strong and durable drum of one piece construction. The drum spooling surface is grooved for wire rope and the large diameter of

the drum affords a wide bending radius to the wire line. Plain drums will be furnished if desired.

The brake flanges are water-cooled and are offered in two types—one made of nickel cast iron, and the other of forged alloy steel. Both brake bands are of the free-expanding, non-bursting type. All contacting surfaces are accurately machined. Water-cooled flanges are recommended for 3,000 feet and deeper drilling service.

The steel brake bands are lined with a high grade asbestos brake lining, having brass wire heat conductors interwoven throughout. Braking mechanism is furnished in either the post type or floor type. The draw works is equipped with steel cat heads. Ample space is provided for automatic cat head or joint breakers. All sprockets are of chrome nickel steel.

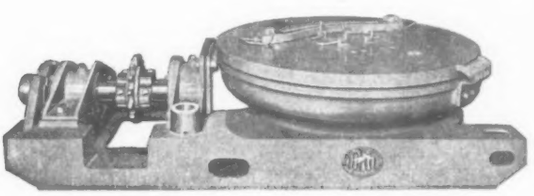
IDECO "6" OILBATH SWIVEL

Among the new products on display is the new Ideco "6" oilbath swivel. It embodies in its design all of the important features and strength factors necessary for extra heavy duty in deep well drilling service. An especially designed main bearing with a safe load capacity of 180 tons carries the downward load. A body thrust bearing of ample size absorbs the thrust of the body when the load is suddenly released from the bail.

The bearing housing and cap form a large oil reservoir, providing constant lubrication to all bearings. A large fluid passage through the goose neck and wash pipe reduces back pressure and increases pump efficiency. All stuffing boxes are externally packed and are easily adjustable from the outside of the swivel.

The bail is heavily constructed with ample clearance between bail and goose neck. Two bail stops hold the bail in position. The lower stop prevents the bail from falling on the hose while the upper stop holds the bail in position when connecting or disconnecting the hose.

Heavily constructed trunnions, cast integrally with the housing carry the heavy loads with ease. Perfect alignment and equal distribution of the vertical load is obtained by means of a heavy duty bearing under the main bearing support. The perfect balance of the swivel and its ready accessibility make for ease of operation and safety to the driller.



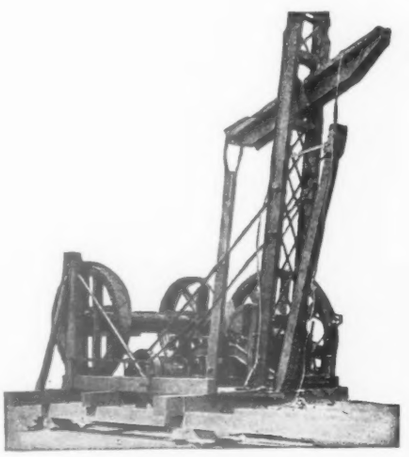
IDECO "27½" OIL BATH ROTARY

This rotary is the latest development of the Boykin division of The International Derrick & Equipment Company and is intended for the heaviest drilling service. It differs from the other Ideco designs in that it is a straight rotary. The base and skids are made of chrome nickel steel cast integrally, providing low table of exceptional strength. A pinion shaft of large diameter, made of special forged steel is mounted in heavy duty roller bearings. The pinion is of forged steel, heat treated, and is keyed and pressed onto the pinion shaft.

The gear ring is made of forged steel, heat treated. The pinion and gear ring have accurately cut (or machined) teeth, heat treated to produce a combination of hardness and toughness. The gear table and hold-down ring made of chrome nickel steel are accurately machined, providing a close fit throughout and preventing misalignment due to side thrust.

An oil reservoir provides constant oil lubrication to the table bearings. The construction of the gear table and base forms a sealed joint which excludes foreign matter from the oil reservoir.

The cone or ball table bearings of heat treated steel, hardened and ground and accurately machined, insure free and easy operation of the table. The table bearings are held in place by heat treated, accurately machined and ground steel races. The split pinion sprocket has ample adjustment for aligning with any make of draw works.



TYPE "B" DRILLING RIG

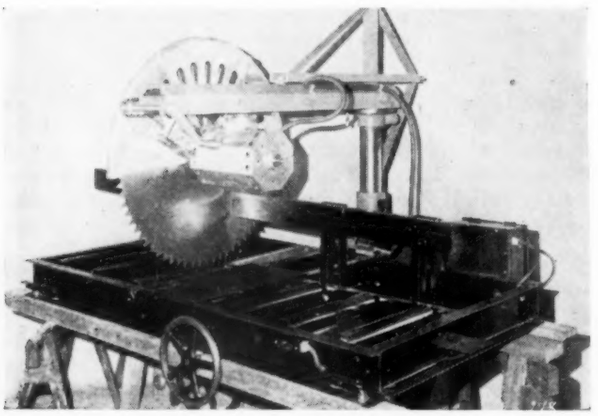
The company is showing for the first time the new type "B" drilling rig. This drilling rig is a fast drilling machine, powerfully constructed and of simple design. It is built to meet the demand for a heavy duty rig, capable of handling with ease the various drilling conditions encountered in 3000-foot wells .... the recommended capacity. Due to its sturdy construction and high factors of safety, ample reserve strength is available for deeper drilling in case of emergency.

Superior features incorporated in the Ideco drilling rig, include: heavy structural steel frame, special steel bull wheels, patented removable gudgeons, fibre-faced friction wheel, adjustable calf wheel bearing for tightening calf wheel chain, tapered over-size wrist pin, Union-Ideco drive chain, heavy all-steel walking beam and a structural steel mast.

The fibre-faced friction wheel is also a decided improvement. It is weather-proof and has a high coefficient of friction which transmits maximum power with minimum pressure. The pressed fibre rim is easily applied or removed.

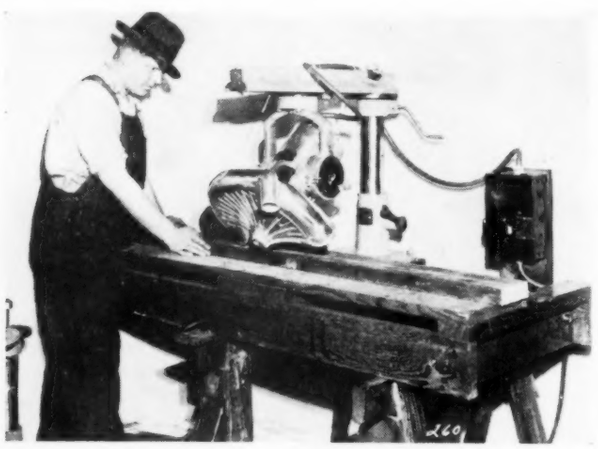
The structural steel mast is of all-riveted construction. It is 65 feet, six inches tall, made in three sections. The walking beam is supported in the lower section of the mast. A wooden mast will be furnished if desired.

De Walt Products Corporation



SAWING EQUIPMENT

De Walt Products Corporation, Lancaster, Pennsylvania, is showing a full line of high speed sawing equipment for wood, metal and stone. The same machine handles all of these materials. Another feature of this machine is its portability, enabling it to be taken right on the job. Cutting is done directly from the motor and the motor is tilted into any cutting position—rip, cross-cut, bevel-rip and miter, left and right. These machines are provided with motor power to suit the customer's requirements, ¾ to eight horsepower can be provided to cut materials up to 12 feet by 20 feet.



Weber Engine Company

HEAVY DUTY OIL ENGINE

Weber Engine Company, Kansas City, Missouri, is displaying a two-cycle, oil engine which is rated 80 B. horsepower at 280 r.p.m. and intended for use in cable tool drilling, pumping and compressor stations, or power plants requiring heavy duty engines with steady power impulse. One of the outstanding features of the engine is its governor control, and fuel supply and injection mechanism. The entire mechanism is enclosed in an oil tight housing and is positively operated by an eccentric driven push rod from the crankshaft. The mechanism comprises a fuel supply pump, a fuel injection pump and a separate fuel measuring valve controlled by the governor. The entire mechanism operates in a bath of oil. Another feature of the engine is the magneto which is used for starting the engine cold and then disconnected.

GAS ENGINE

The 40 horsepower two-cycle engine is similar to the line of gas engines put out by the company for the last 14 years but is heavier and of more rugged construction and is designed to develop its brake horsepower at 180 r.p.m. An added feature of this engine is a manually operated air regulator. The engine is also equipped with A. P. I. flywheel flange connections. Weight of this machine is approximately 8100 pounds.

VOLUME TANK

A new device being shown by this company is a combination sand trap and volume tank and is installed in the intake line, and designed to eleminate the present home-made devices now in use. The tank is of welded steel construction, into which the gas is piped and deflected so that the heavy particles of sand dirt are thrown into a liquid and prevented from passing on through the gas line. The tank is provided with cleanout and drain valves and comes ready for installation.

Vinson Canter Company

AIR FILTER

Vinson Canter Company, Tulsa, is showing the new V-C Wick-Lube Air Filter. This is a unit type filter made up of one, two, three or four units as may be required by the quantity of air to be filtered. This filter is designed primarily for removing sand and dirst from the air to the suction of internal combustion engines and compressors. The filter media is of corrosive resisting materials. A new and unique method is used to keep the filter units covered with adhesive oil, which removes the sand from the air. This oil is added to each unit very slowly by means of wick lubricators mounted directly above the unit. The oil is then spread thoroughly through the unit by means of wicks which are enclosed inside the frames. Oil is fed continuously over the filter units preventing them from drying operation, thus keeping them at a high state of efficiency throughout the operating period. Three types of these filters are on display.

Hyatt Roller Bearing Company

HYATT ROLLER BEARINGS

Hyatt Roller Bearing Company, Harrison, New Jersey, is exhibiting an assortment of Hyatt roller bearings of various sizes and types suitable for use in oil field equipment. There is also an operating model of a Hyatt roller bearing illustrating the positive lubrication features of the bearing. Photographs of actual installations, and designs illustrating construction and application of the bearing are being shown.

Smith Welding Corporation

WELDING EQUIPMENT

Smith Welding Corporation, Minneapolis, is exhibiting in conjunction with Peerless Supply Company of Tulsa, a complete line of oxy-acetylene welding and cutting equipment together with the sectional view of a new type of portable acetylene generator. This new series of generators have been developed primarily for pipe line welding.

CONTROL

MEANS AS MUCH TO A FLOWING WELL AS IT DOES TO A SHIP AT SEA

Fully Patented

Obtain it with the GUIBERSON CONTROL HEAD PACKER

A ship is a moving force, going from one port to another, the same as a flow of oil, going from the bottom of the hole to the top. Without control, a ship would waver on its course, exhaust its fuel and supplies or perhaps founder in a storm. A flowing well, not confined to the tubing, faces similar extinction.

The Guiberson Control Head Packer confines the flow to the tubing, thereby conserving the gas pressure and prolonging the flow, with maximum production. Likewise, the surface pressure is maintained in the well and the gravity of the oil is preserved. The Guiberson Control Head Packer runs in against the heaviest flows. Fully patented.

TO PACK FLOWING WELLS

The Guiberson Tubing Oil Saver, set on top of the casing, confines the flow while the Control Head Packer is being run. Its rubbers permit passage of tubing collars and it can be opened wide to admit Packer or Tubing Catcher.

"Better Be Safe Than Sorry"

THE GUIBERSON CORPORATION

Box 1106, Dallas, Texas

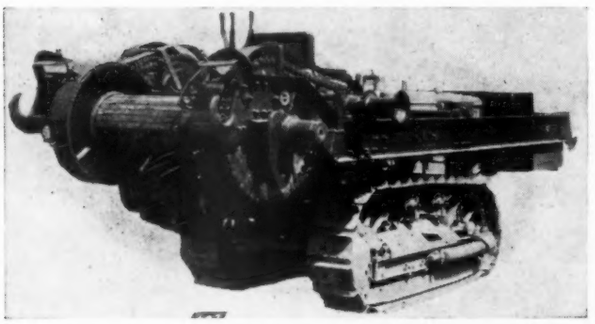
California Branch: 1506 Santa Fe Ave., Los Angeles.

621 Kennedy Bldg., Tulsa — 321 S. Osage Ave., Ponca City — 506 Trust Bldg., Newark, O.

GUIBERSON

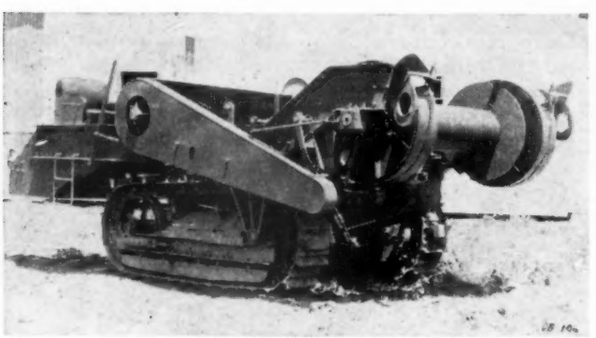
BETTER BE SAFE THAN SORRY

Allsteel Products Manufacturing Company



OIL FIELD WINCH

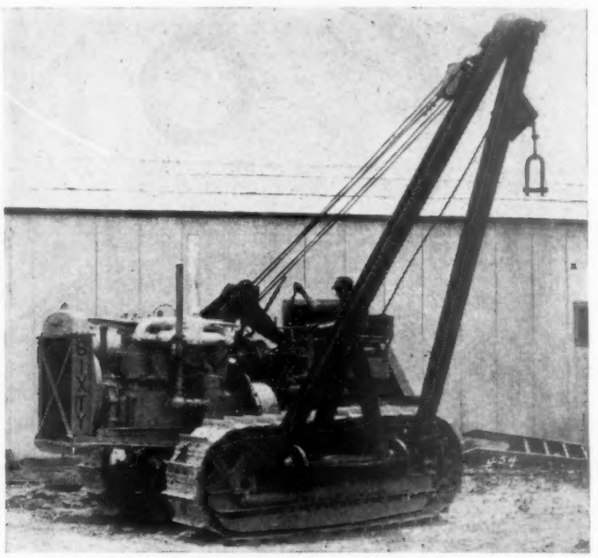
Allsteel Products Manufacturing Company, Wichita Kansas, is showing the new oil field winch which is designed to oil field needs with six drum speeds ranging from 50 line feet per minute to 1000 feet per minute. The Model 30 meets many uses such as bailing, swabbing, cleaning, spudding and drilling. The overhanging drum permits running the line through the crown block direct yet does not prevent tigging to a floor-block when desirable or necessary. Free rolling, full-release drum and powerful positive brakes are provided. All bearings are Hyatt anti-friction roller bearings and are completely enclosed to prevent damage by water or dirt. Lifting capacities of the machine range from 16,875 pounds at distance of two feet from the tread, to 2873 pounds at distance of 12 feet. These loads are lifted without use of counterweights.



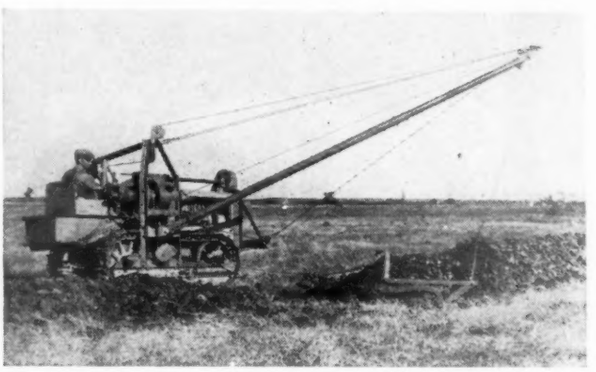
Model 60

The model 60, also new winch, has eight speed ranges forward and two reverse speeds. This machine is built on practically the same lines as the Model 30 but is much larger and is capable of handling much heavier loads. It has a drum capacity of 13,000 feet of 5/8-inch line. There are two drum clutches which are of dental type, each being controlled by a separate lever. The entire winch mechanism is driven and controlled through the tractor master clutch.

The pipe line winch is designed to function as a pipe bending machine with bender attachment, for use as a tractor, and as a winch for use in laying pipe lines. The design and all steel structure of the winch provide a maximum of operating flexibility without detracting from the necessity of rigidity, power capacity and factors of safety essential to equipment handling pipe line work. This machine has four forward speeds and one reverse with a spooling capacity of 1900 feet of ½-inch cable. . Maximum pound pull of the winch in first speed is 26,800 pounds with a line speed of 80 feet per minute.



PIPE LINE WINCH



BACKFILLER

This machine can be moved in any kind of location regardless of the terrain and is especially suitable for filling ditches, trenches and pipe line cuts. It is supplied with three filling blades of different sizes to meet the requirements of various jobs. The boom is mechanically adjustable from the driver's seat to work in any position within a sector of 120 degrees of arc. Operation of the machine is controlled from the operator's seat, all in-haul and out-haul being controlled by the one man. The reach of the boom is from 25 to 30 feet. This machine is capable of filling two miles of 30-inch by six foot ditch per day.

California Talc Company

AQUAGEL

California Talc Company is showing samples of drilling muds together with Aquagel, a colloidal compound for rotary mud. Demonstrations are given showing how the basic characteristics of different muds are improved by being treated with Aquagel. Laboratory equipment is also used to show the treatment of rotary mud from the scientific point of view.

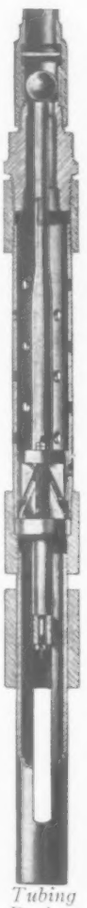
Granger Indicator Company

TUBING BLEEDER

Leak Indicator

Granger Indicator Company, Whittier, California, is displaying the tubing bleeder which is positive in performance, automatic in action, and locks and unlocks in the well. Used with rigid type standing valves this bleeder drains tubing before pulling and will also flush gorged valves without pulling out. Other features of this device are: it helps to preserve the formation by preventing destructive hydraulic action, prevents oil becoming loaded with sand by lessening agitation of the formation. When used with any type pump having leather packing cups it controls fluid and prevents tearing up of cups which may later gorge standing valve.

In picking up pump plunger out of working barrel it prevents reversal of cups, and pluger can be run back without renewal of cups. This device is made of high quality materials and is made with such precision that a pressure of less than 25 pounds per square inch will operate the locking mechanism. Valve lifting and locking mechanism is entirely enclosed. The bleeder is operated by setting tubing on bottom; then, if draining prior to pulling, tubing is started out in a few seconds; if flushing standing valve, tubing is left on bottom until fluid level equalizes in well and tubing then pulled back to working position.


Tubing Drainer

TUBING LEAK INDICATOR

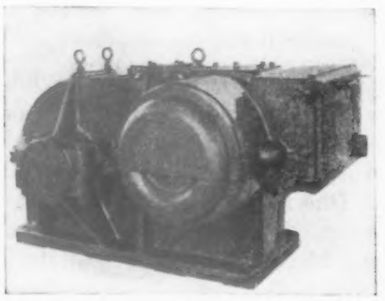
The tubing leak indicator is positive in action, unerringly finding the leak before casing is pulled and stays there until pulled to the surface. In this way the crew has to pull only to the leak, make the necessary repairs and then go back into the hole with the tubing. The indicator is made of accurately machined bronze, the leather cups are of special heat resisting stock which function under a temperature of 200° F. The indicator is made to run in two-inch, 2½-inch and three-inch tubing. All sizes are approximately 26 inches long. It comes enclosed in a starting nipple which also serves as a protecting carrying case.

Multi Metal Wire Cloth Co.

WIRE CLOTH

Multi Metal Wire Cloth Company is showing a complete line of wire cloth and metallic filter cloth. This embraces square mesh cloth from four meshes to 400 meshes per linear inch, and the metallic filter cloth up to 1000 wires per linear inch. The following metals are included: brass, copper, phosphor-bronze, steel, pure swedish iron, aluminum, everdur, pure nickel, monel metal and enduro KA2. These screens are used on Gray towers used in vapor phase cracking, percolating filters, contact filtration and flame arresters.

Westinghouse Electric & Mfg. Co.



PUMPING GEAR

Westinghouse Electric & Manufacturing Company, East Pittsburgh, Pennsylvania, is exhibiting the new OP-300 pumping gear unit. This line of pumping gears provide complete drive for pumping wells requiring five to 40 H. P. at eight to 32 strokes per minute. These drivers are built in three sizes to cover the operating range. A triple reduction gear, motor and control, are assembled into one weather-proof self-contained unit which may be connected to the pitman on a standard rig, or supplied complete with a Sampson post walking beam and pitman.

The exhibit also includes the new Visicode supervisory control equipment which provides for remotely controlling and supervising a large variety of power apparatus, and operates over but two-line wires similar to those used for telephone purposes. The Visicode is an all relay supervisory control using the same type of relays and employing the same fundamental principles of circuit design as used on the first successful supervisory control built by this company in 1921.

In addition to these displays there are also two small ornamental derricks on which are mounted transparencies showing representative installation views of electrical equipment which this company manufactures for the oil industry. These transparencies also include views of pumping wells, drilling with alternating current equipment, drilling with direct current equipment, steam rig lighters, heat exchangers, small mechanical drive turbines for driving pumps, arc welding equipment, and pipe line pumping installations.

Timken Roller Bearing Company

BALL AND ROLLER BEARINGS

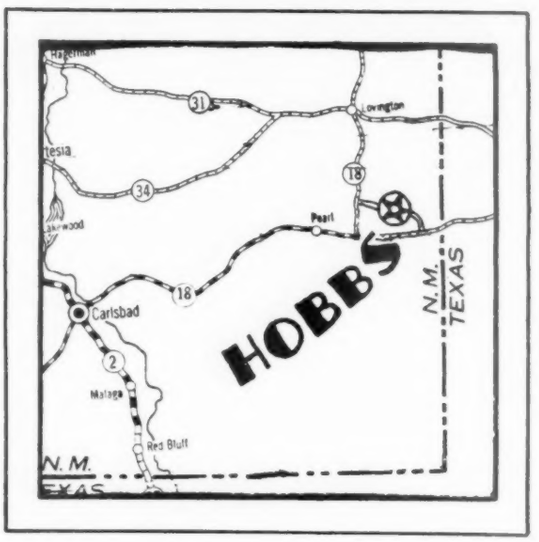
Timken Roller Bearing Company, Canton, Ohio, is displaying an exhibit to show the capacity of the bearings for carrying thrust loads, as well as the reduction they effect in friction. This display consists of a mill type bearing, weighing about 500 pounds, mounted on a vertical shaft, the whole suspended weight being carried by a small bearing. The shaft will be driven by a small electric motor, using a fish line for a belt. The remainder of the exhibit consists of an assortment of bearings suitable for use in various types of oil field equipment.

◆Credit for discovery of this new pool belongs to the Midwest Refining Company, who uncovered a flowing producer from the 4200 foot lime horizon late in 1928, the well being on state fee land about a mile southwest of Hobbs, Lea County, New Mexico, near the Texas border line.

This well increased its flow to 980 barrels natural in the middle of December, 1928, and was plugged back and officially completed April 24th, 1929, flowing 700 barrels daily. Due to the isolation and lack of market outlet, development of the Hobbs pool was considerably retarded and the close of 1929 saw only four more producers completed. In January 1930 the number of producers had been increased to nine.

The field now has more than fifty completed wells with a potential estimated at 400,000 barrels daily production, but prorated to approximately 35,000 barrels for the period ended September 1st. There were sixty-two drilling wells as of the first week in September in the Hobbs area.

HOBBS
NEW MEXICO



John I. Hammond, *Mgr.*

FRICK
SUPPLY CO

- **AXELSON MANUFACTURING COMPANY, LTD.**
  Sucker Rods; Pull Rods; Plunger Working Barrels (Pumps); Stuffing Boxes, etc.

- **BEAUMONT IRON WORKS COMPANY**
  Dreadnaught Rotary Equipment. Water-cooled Drawworks; Timken Bearing equipped Straight Line Crown, Traveling and Tubing Blocks; Pumping Hoists; Electrically Driven Bailing line Reels; Structural Steel Walking Beams with patented Internal Truss Brace; Casing Shoes, clamps, river clamps, etc.

- **DONOVAN BOILER WORKS**
  Oil Country Boilers and Tanks. Boilers range from low pressure to 350 pounds W.P., for the deepest and hardest drilling demands.

- **FRICK-REID SERVICE BELTING**
  Friction Surface Rubber Belting made to our own specifications.

- **JONES & LAUGHLIN STEEL CORPORATION**
  Tubular goods including Buttwelded, Lap-welded and DOUBLE PIERCED Seamless steel in Line Pipe, Tubing, Drill Pipe and Casing.

- **NATIONAL TRANSIT PUMP & MACHINE COMPANY**
  Pumps, Gas Engine Compressors, Pipe Line Equipment, etc.

- **WILLIAM POWELL COMPANY**
  Valves for the Petroleum Industry.

- **J. P. RATIGAN**
  The "SURE-GRIP" line of pumping equipment including Grips, Clamps, Beam Hangers, etc.

- **JOSEPH REID GAS ENGINE COMPANY**
  Gas Engines, two and four-cycle; Band Wheel and Direct Drive Pumping Powers, Receiving Boxes and other refinery equipment.

- **JOHN A. ROEBLING'S SONS COMPANY**
  Wire Line; Gas and Electric Welding Wire.

- **ROSSENDALE-RUBOIL COMPANY**
  "Camel Hair" and stitched canvas belting.

- **WALWORTH COMPANY**
  Fittings, Valves and Tools for Steam, Water Gas, Oil and Air.

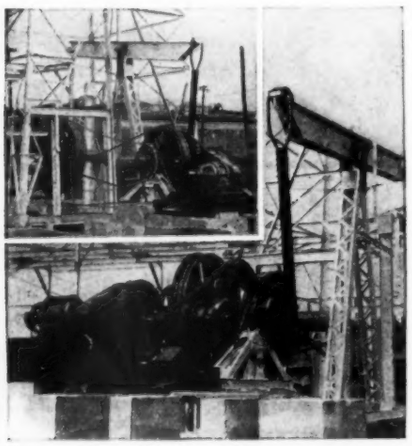
- **WHITLOCK CORDAGE COMPANY**
  Manila Cordage, Drilling Cables, Bull Ropes, Cat Lines, etc. Either Waterflex or Plain. Waterflex cordage is impervious to moisture.

• REID

RPORATION

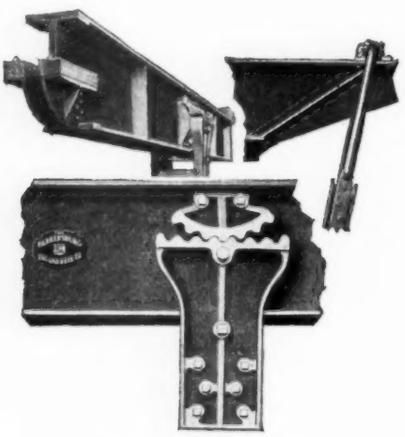
◆ PITTSBURGH, PENN.
◆ TULSA, OKLA.
◆ . . . AND BRANCHES

Parkersburg Rig & Reel Company



CHAIN-DRIVEN RIG FRONT

Parkersburg Rig & Reel Company is showing the new chain-driven rig front, built with more than ample capacity for handling present deep drilling, pumping and maintenance operations. Self-aligning roller bearings on the crankshaft and countershaft are features which make for more efficient operation. This rig front may be installed with any standard sized derrick and used with electric motor, reverse clutch gas engine, or steam engine drive. Bull wheels, calf wheels, and sand reels are optional equipment with this new unit.

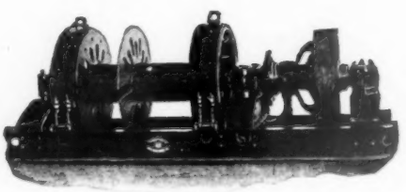


WALKING BEAMS

The latest improvement to walking beams is the welded reinforcement at the pitman end, now being built by this company. The improvement consists of a heavy structural steel angle welded on both sides of the main beam section which materially strengthens the assembly and divides the load evenly between both flanges of the beam. The beams come equipped with either center trunnion saddle irons or center rocker fittings.

SECTIONAL BAND WHEELS

The sectional band wheels are made by rolling the rim in one piece and sawing in two. The rim splice is strengthened with cast steel angle bars riveted inside the rim. They fit the contour of the face and bolt together after the idea of a belt clamp. This new type is known as Parkersburg type P and is made in 10, 11, 12 and 14-foot diameters with 12, 14 and 16-inch faces. They are equippel with either double or triple rolled groove tug rims and shipped either assembled or knocked-down.



SAND REEL

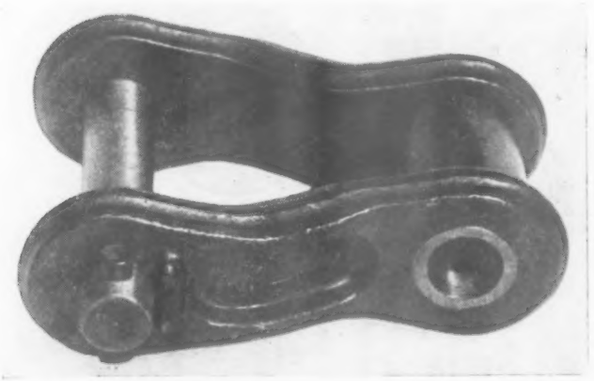
The new chain-driven sand reel for 7000-foot operations has the unique feature of double over-size brakes bolted directly to the 44-inch diameter spool flanges on either side. Spooling capacity is 7000 feet of 5/8-inch line.

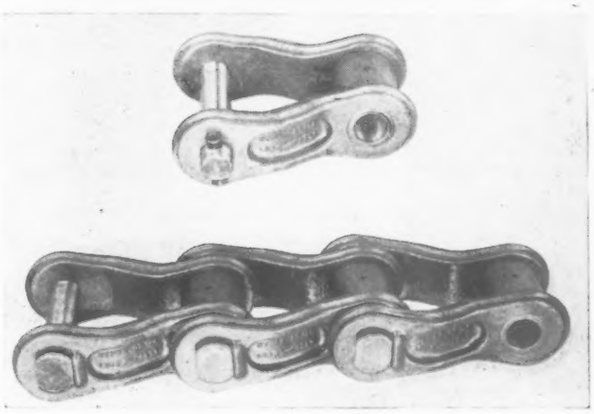
Glen Dial, Inc.

PORTABLE ARC WELDER

Glen Dial, Inc., Tulsa, is showing the Shrader portable arc welder mounted on a Dodge Brothers truck. This machine is designed for heavy type welding such as pipe lines and high pressure joints. The generator installed in the Dodge Brothers truck takes only 18 inches of body space and 900 pounds of the carrying capacity, leaving the rest of the body for use in transporting equipment and materials used on the job. The generator produces its maximum output at a speed of 1050 R.P.M. The governor furnishes a constant current under load and prevents surging or racing of the engine. The drive chain from the power take-off is an American Silent Chain of the heavy duty type. The alternating current produced by this machine is useful in driving grinders, hammers, and other special electrically driven tools that may be needed, as well as illumination for night work.

Link-Belt Company





HYPER CHAIN

Link-Belt Company, Chicago, is showing rotary chains for drilling, model of the Link-Belt vibrating screen for screening rotary shale mud and the new Hyper chain. The drop forged sidebar, an added improvement to the hyper chain, is produced from nickel chromium alloy steel drop forgings, carefully normalized after forging, and heat treated. The pin and bushing holes are finished to precision limits by the new Sizeite process recently developed for oil field rotary chains. The chain pin is securely fastened in the chain by a special design of cotter known as the Oil Country cotter. The end of the cotter is swaged, insuring an integral and non-shifting retainer for the chain pin. This drop forged sidebar hyper chain has an ultimate strength of 180,000 pounds, and an elastic limit of 160,000 pounds.

Advance Rumely Thresher Company

WINCH TRACTORS

Advance Rumely Thresher Company, Tulsa, is showing Oilpull winch tractor and stationary winch for general oil field work which has a winch drum that is driven direct from the crank shaft of the motor by heavy roller chains. The engine is oil-cooled and positively governor controlled. The Oilpull winch has all parts interchangeable with the winch tractor. This winch will pull rods and tubing from any depth well. It is not necessary to gear down through a large reduction of gears in order to get force to lift the load. The stationary winch can be mounted on a 2½ ton truck. The Do All winch has four speeds forward and two reverse speeds. Weight of this unit is 2900 pounds.

Fort Worth Well Machinery and Supply Company

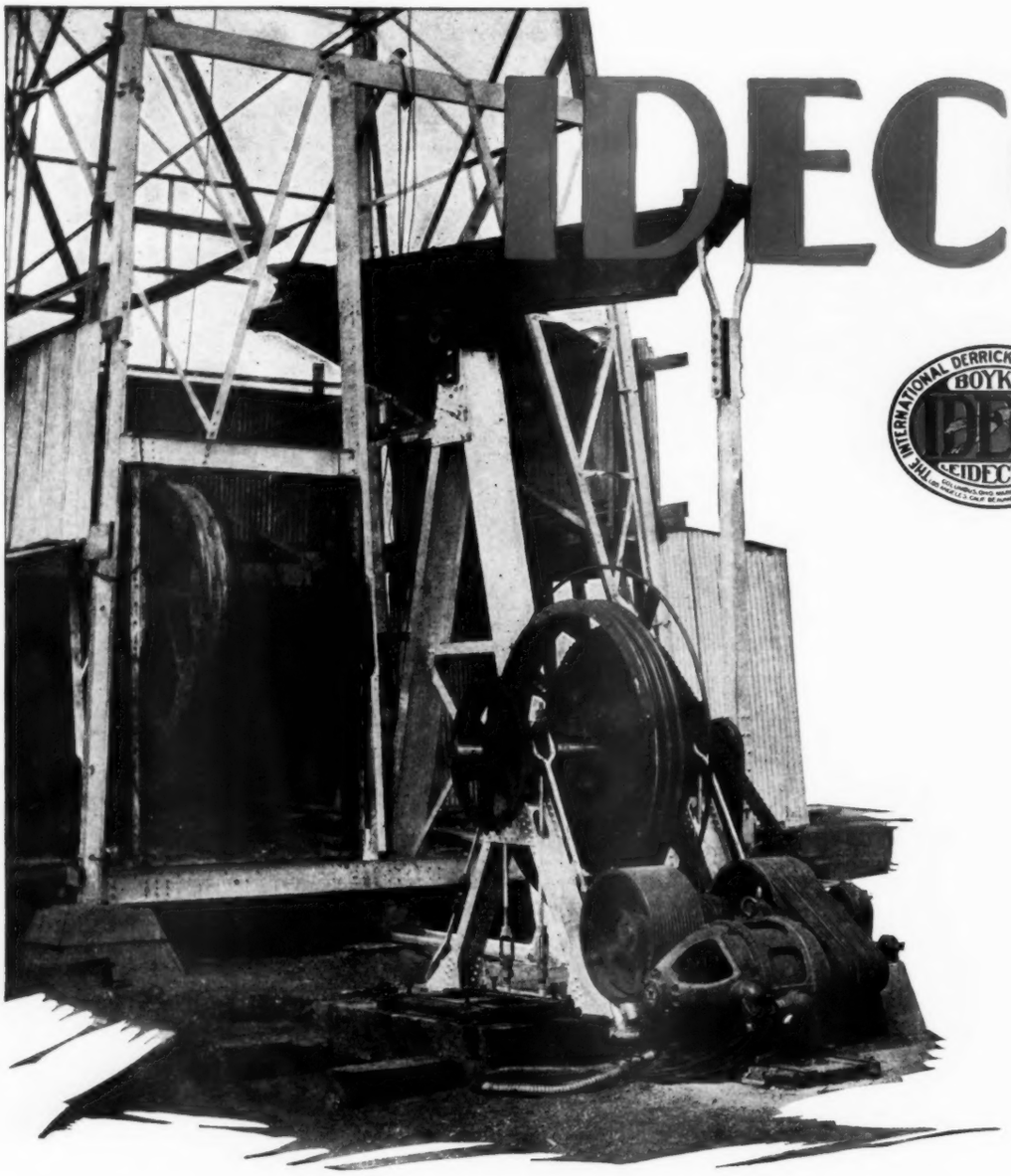
FORT WORTH SPUDDER

Fort Worth Well Machinery & Supply Company, Fort Worth, is showing one of its caterpillar type Super "H" Fort Worth Spudders which embodies the feature of a chain driven sand reel. This sand reel is operated by a Herdman clutch and spools more than 8000 feet of 9/16 inch line. The shafts of this sand reel are mounted on S. K. F. ball bearings. It is also equipped with two asbestos lined brakes, one at either end, the bands being fastened to an evener precluding any possibility of the load being thrown onto one brake. Another feature of this spudder is the steel pitmans. These are attached to the wrist pins with bronze bearings and are lubricated with the Alemite system of lubrication through the wrist pins. The shock absorber permits the shock absorber sheave to travel horizontally across the machine with the line, thus encouraging even spooling of the line on the drums. The main sills have been increased in size. The caterpillar feature makes possible the transportation of this machine over the soft and sandy earth of the oil fields with a minimum of horsepower requirements.

Hercules Tool Company

PUMPING AND FLOWING TEE

Hercules Tool Company, Tulsa, is showing the combination tee with both upset and regular threads. This tee is designed to simplify the connecting up of either a pumping or a flowing well with either upset or regular tubing used. The tee has both the regular and the upset thread on the bottom to screw on to the tubing, a regular thread on top for the stuffing box or other connections and a 90 degree



IDECO

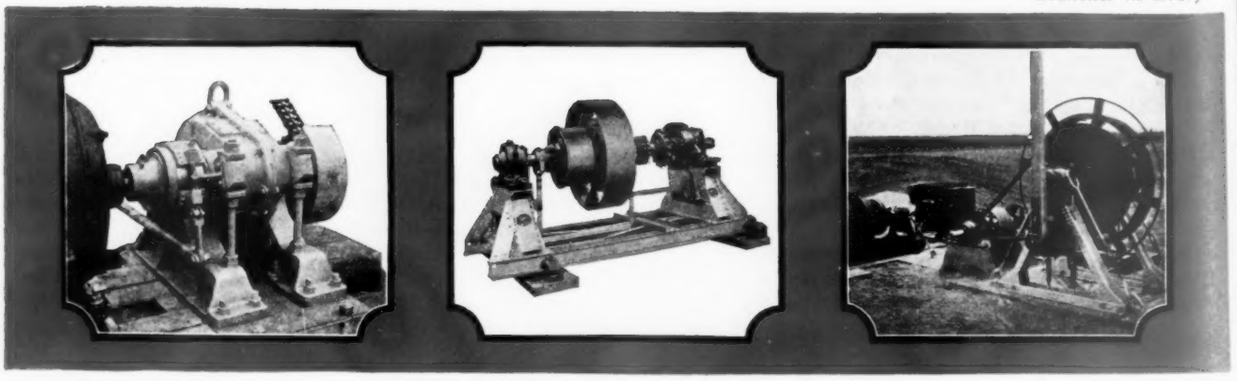
THE INTERNATIONAL DERRICK & EQUIPMENT COMPANY
BOYKIN
IDECO
IDECKER

THE INTERNATIONAL DER

COLUMBUS, OHIO MARIETTA, OHIO

NEW YORK WICHITA TULSA OKLAHOMA CITY
LONDON, ENGLAND BUENOS AIRES,

Branches in Every

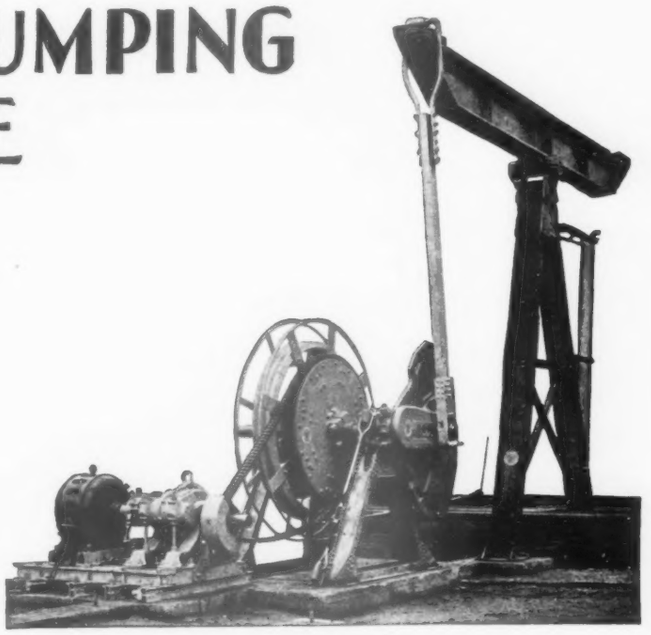


CHAIN RIG

DEEP WELL PUMPING SERVICE

It is almost sufficient in itself to say that here is a portable, trouble-proof, deep well pumping (or cable tool drilling) unit that can be economically installed and operated, doing its work without faltering on the deepest wells. Oil men everywhere have been awaiting the development of just such a unit as this IDECO Chain Rig. Its use means more hole per day and more production per well. A compact, powerful unit, built entirely of steel. Simplicity of design and unusual freedom from wear are outstanding features.

Write for Bulletin No. 101, giving complete details.



The IDECO Chain Rig may be operated with Electricity, Internal Combustion Engines or Steam Power. A complete IDECO Chain Rig consists of a chain wheel; crank and shaft; tapered wrist pin; standard "A" frame jack posts with roller bearings; "A" frame Samson and headache post; center irons; walking beam; pitman and long stroke crank counter balance; and the proper speed reducing unit.

RICK & EQUIPMENT COMPANY

BEAUMONT, TEXAS LOS ANGELES, CALIF.

FT. WORTH HOUSTON SHREVEPORT TORRANCE

ARGENTINE MARACAIBO, VENEZUELA

Important Oil Field

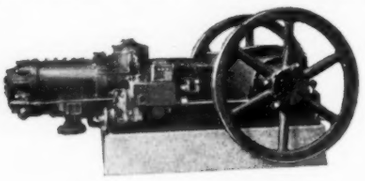
725

side outlet for a lead line or flow line connection. On the back side of the tee there is a 1" opening for a bleeder valve if used on a pumping well or for connecting a pressure gauge if used on air or gas lift. This device is made of a high grade nickel iron and tested for 3000 pounds actual pressure and is furnished with either 10 or 11½ inch threads, and for all sizes of tubing.

FORGED STEEL TUBING HEADS

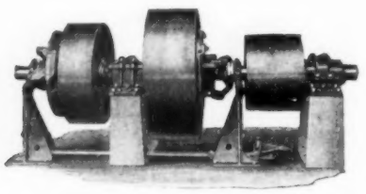
These tubing heads are developed for high pressure wells or for deep wells where absolute safety is essential. This head is so designed that in case it is desired to run the tools into the well, it is only necessary to remove the top section and there is left on the well a regular forged steel casing head. The top section is equipped with three slips that completely encircle the tubing. On top of the slips there are two packing rings which are compressed by means of a packing nut that screws down into the tubing head and packs off around the tubing. The head is tested for 2500 pounds pressure.

Joseph Reid Gas Engine Company



TWO CYCLE GAS ENGINE

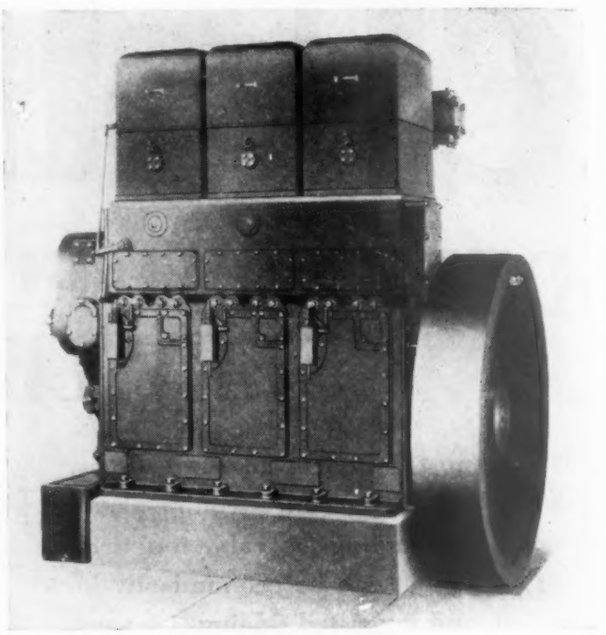
Joseph Reid Gas Engine Company is exhibiting its new two-cycle Type C gas engine featuring high thermal efficiency, wide speed range, and splash lubricating system. This 14½ by 18-inch engine incorporates Timken bearings, high pressure lubrication to crank crosshead pin, rotary type magneto, Eclipse lubricator for three-point cylinder lubrication, and a centrifugal water circulating pump mounted on cam shaft box and gear-driven by cam shaft. The recommended power ranges between the speeds of 180 to 400 r.p.m. is from 80 to 135 Bhp with a fuel consumption of from 13 to 11 cubic feet of 1200 B.t.u. gas per brake-horsepower.



REVERSIBLE COUNTERSHAFT

The reversible countershaft has been built for installations where a belt reverse countershaft is preferred to the direct drive-connected, gear-driven reverse clutch. A stub shaft on the engine is supported by a pedestal bearing and carries two pulleys which transmit the forward and reverse motion to the five-inch countershaft by means of a straight and a cross shaft. The countershaft take-off pulley is keyed solidly to the shaft. A single lever controls the mechanism and engages either the forward straight of the reverse cross-belt pulley, automatically disengaging the pulley which is being relieved of service. A choice of Timken or bronze-bushed bearings is available.

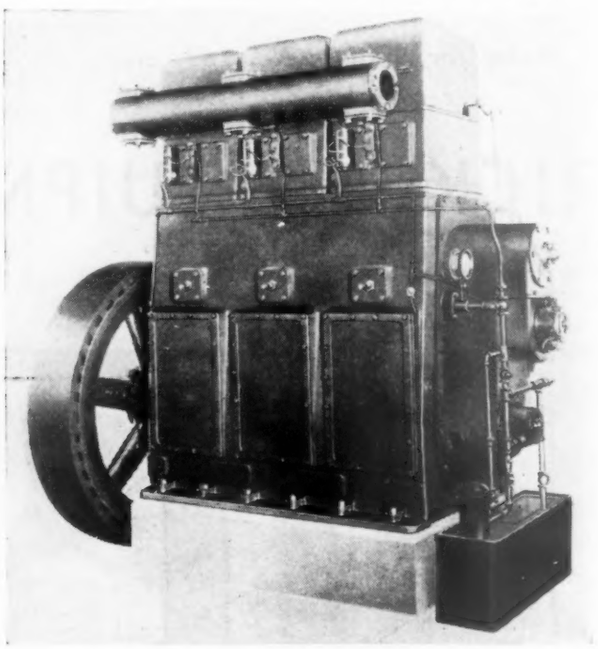
Cooper-Bessemer Corporation



VERTICAL ENGINES

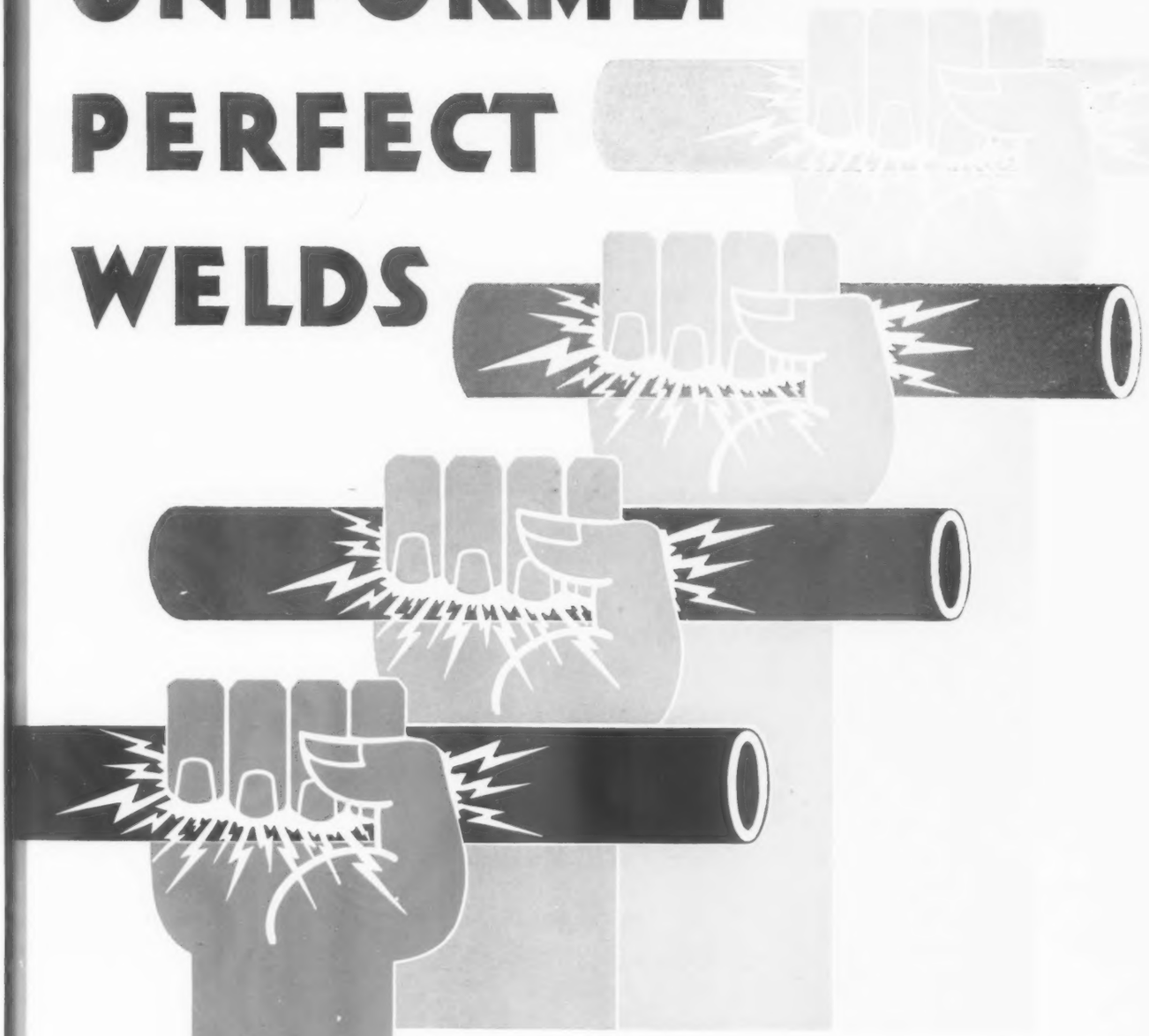
Four units developed and introduced to the oil and gas fields during the last year make up the exhibit by Cooper-Bessemer Corporation, Tulsa. One of the operating units in the exhibit is the type GA pumping and drilling engine.

The second operating unit on display is the type 14 vertical gas engine. This engine is featured by its unusually strong frame, the drop-forged connecting rod, its silent roller chain driven cam shaft, which is carried on roller bearings, and the separate mixing valve for each cylinder. This engine is built in sizes from 75 to 200 B. H. P. The compressor cylinders being shown are built in six series of sizes ranging in diameter from five inches to 20 inches.



Three-Cylinder Vertical Gas Engine

UNIFORMLY PERFECT WELDS



REPUBLIC *ELECTRIC WELD* PIPE

MADE BY A NEW PROCESS
CONTROLLED EXCLUSIVELY BY
REPUBLIC STEEL CORPORATION
YOUNGSTOWN . OHIO . . . . .

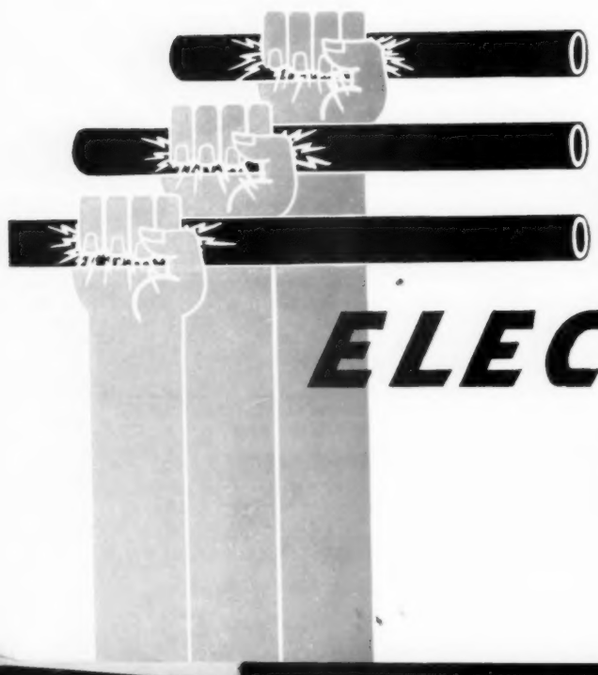
ELECTRICITY MAKES POSSIBLE THIS WELD

GUARANTEED 100% EFFICIENT

In this unique process for making pipe, controlled exclusively by Republic Steel Corporation, furnace heating of skelp for bending, as well as reheating for welding, are entirely eliminated. High grade open hearth skelp is shaped cold —given the equivalent of a cold working—then welded electrically—the edges fused to form a weld that almost defies detection. Every length is welded like every other length—no filled-in material at the weld—all welds uniform—perfect, and guaranteed 100% efficient compared with the usual 91% efficiency obtained in good lap welding practice.

Tests in the laboratory prove the weld stronger than any other part of the pipe wall. Tests on almost two thousand miles of pipe in use prove Republic Electric Weld Pipe dependable under every conceivable condition of service,—truly a mechanical perfect pipe.

REPUBLIC STEEL CORPORATION
YOUNGSTOWN, OHIO



REPUBLIC *ELECTRIC WELD* PIPE

MADE BY A NEW PROCESS
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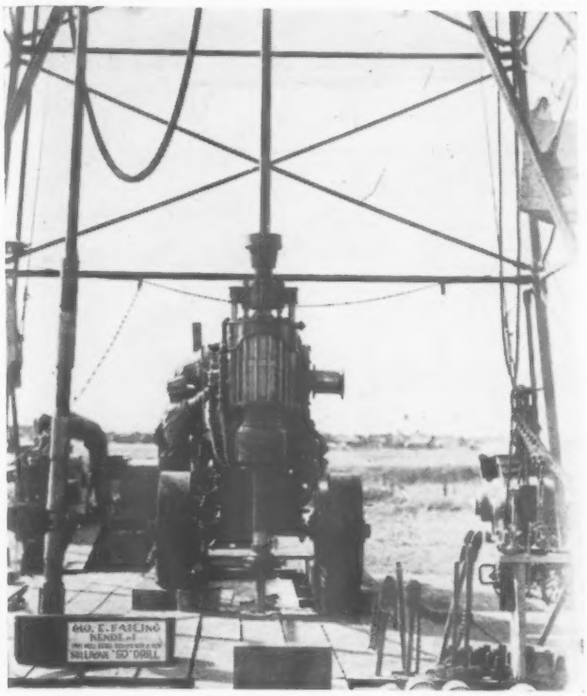
YOUNGSTOWN . OHIO .....

Sullivan Machinery Company



CORE DRILL

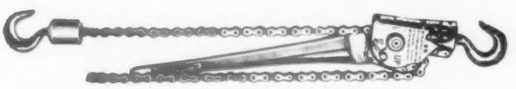
Sullivan Machinery Company, Chicago, has as one of its chief exhibits, the portable core drill which is set up on the lot under a derrick and is operating, making hole and taking cores from time to time.

This drill has been developed for unusually deep structure drilling, or for shallow production. The type being shown is designed to use any ordinary rotary fittings, bits, etc., and has the additional faculty of employing a core bit using either black diamonds or diamond substitutes when it is necessary to take core. The equipment will handle 3½ inch flush joint drill pipe to a depth of 1500 feet; will set two or three joints of 11¾ inch casing, 500 feet of 8⅝ inch casing, 1000 feet 6⅝ inch casing, 1500 feet 4¾ inch casing, 2500 feet three-inch casing and will make three-inch open hole to 3000 feet. This drill is a gasoline engine driven rig consisting of a hoisting drum hydraulic swivel head for drilling; oil pumps for hydraulic circulation, and engine, all mounted on a substantial steel truck for convenience in moving. The hoisting equipment handles 325 feet of ⅝ inch rope and has three different speeds. The outfit is driven by a 54 H.P. four cylinder, four-cycle, Buda engine.

PEERLESS PIPE LINE PAINTER

Sullivan Machinery Company, in conjunction with Peerless Sprayer Company, is also showing a pipe line painter. Introduction of pressure within the paint container forces the paint through the hose line direct to the gun. The air pressure pipe which supplies all of the air for the spray gun reaches to the bottom of the tank. All this air passing up through the paint performs two important duties, first agitating the paint in the container, and second, the compressed air passing through the paint at approximately 250 degrees F. prevents coagulation during cold weather. It is claimed that this device is capable of painting about six times as much pipe as can be painted by hand by one man.

Coffing Hoist Company



HOISTS

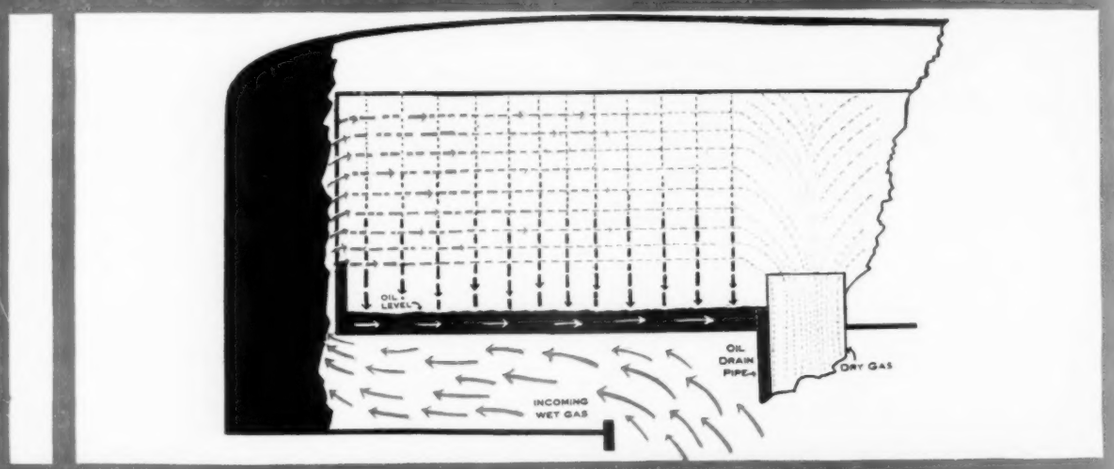
Coffing Hoist Company is displaying a line of hoists in the following sizes: Model A, ¾-ton, weight 13 pounds; Model F, 1½-ton, 25 pounds; Model F-S, three-ton, weight 36 pounds; and Model Z, six-ton, 65 pounds. All hoists are tested well above rated capacity before leaving the shop. One convenient feature of the hoists is that they can be used in any position, with either end up, so that when either pull or lift is needed it can be obtained without changing position of the equipment.

Black, Sivalls & Bryson, Incorporated

TANKS

Black, Sivalls & Bryson, Inc., Bartlesville, Oklahoma, is showing a line of tanks of both the steel and wood type. The vapor pressure tanks are made of copper bearing steel and also of California redwood for fields that have sulphur dioxide in the sour crude. Both the steel and the wood vapor pressure tanks are equipped with a special thief hole pressure vacuum valve which operates at 16 ounces pressure or two ounces vacuum. The bolted steel tanks are of the flange type construction whereby there are four thicknesses of metal plus a special packing. They contain angle iron tie rods, a special ladder, a sloping deck, heavy rod gussets and bottom angles. In the wood tanks all metal parts inside are insulated with wood. This company is also showing a special safety walkway and stairway. This is made entirely of steel and is constructed to be portable and adjustable.

"See American First"



Meet the American!

Study This Chart

This drawing of the head of the Improved AMERICAN Oil and Gas Separator illustrates the principles of velocity and gravity, (after centrifugal force is utilized) which are the forces that separate the gases and permit the liquids to drain back into the oil chamber without again coming in contact with the incoming flow.

The B. S. & B. Spray Condenser, of which this shows only a section, is so perfectly designed that at ten points in the flow, the liquids remaining in the stream are taken from the light gases—*every particle of oil is stripped from the gas!*

The Improved American
Oil and Gas Separators

Equipped with the B. S. & B. Spray Condensers

Give thought to the AMERICAN, and see it in action. Learn of its various principles, and working parts, and why it is performing such great results—the reason for the tremendous Separator sales.

These Separators are equipped with the B. S. & B. Spray Condenser, which completely removes all Oil that may be in the Gas in suspension; a tangential inlet; an inside float that has the capacity of ten of the outside valves, and other features that make it distinctive, and so much in demand.

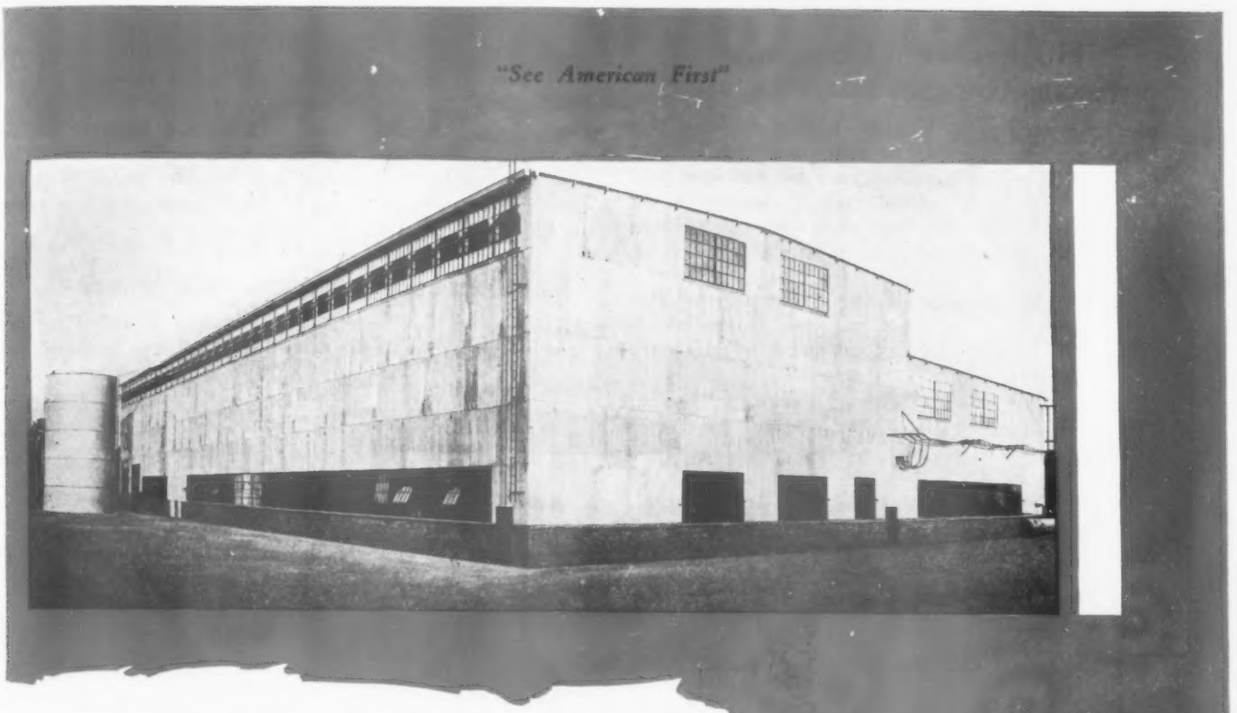
[May we send you specific and technical data concerning the AMERICAN? Please address Dept. AA-11.]

American Tank & Equipment Corp.

A SUBSIDIARY OF
BLACK-SIVALLS & BRYSON, Inc., Bartlesville, Okla.

OKLAHOMA CITY — OKLAHOMA

(Formerly AMERICAN TANK COMPANY)



The Home of the American!

A New Factory and a Unique Structure

AMERICAN
EQUIPMENT
Always Dependable

The new Factory of the American Tank & Equipment Corporation (formerly American Tank Company) has recently been completed.

This is a unique structure in that it is of all welded construction, which proves our faith in welding. It is one of the few buildings of its kind in the country, and the largest shop of its kind West of Chicago.

The building was designed by the Engineering Staff of Black, Sivalls & Bryson, the parent company of this concern, and the special equipment and devices have been *originated* to facilitate greater efficiency and more economical operation, which is of benefit to our customers.

The Manufacturing Subsidiary of "B. S. & B." And Producers of Other Equipment

The natural gas plant and refinery equipment designed by the newly created Refinery and Gasoline Plant Division of Black, Sivalls & Bryson are made in this factory, in addition to the Improved AMERICAN Oil and Gas Separators.

The American Tank and Equipment Corporation also manufacture welded field tanks, bulk storage and filling station tanks, heavy pressure vessels, smokestacks, and numerous other welded or riveted products, which equipment is made to specification.

B.S.& B. Products

Another Great American

[If in need of anything special in the way of tanks or equipment, let our engineers design something for you. Address Dept. AA-11.]

See Our Xhibition at the Xposition—

American Tank & Equipment Corp.

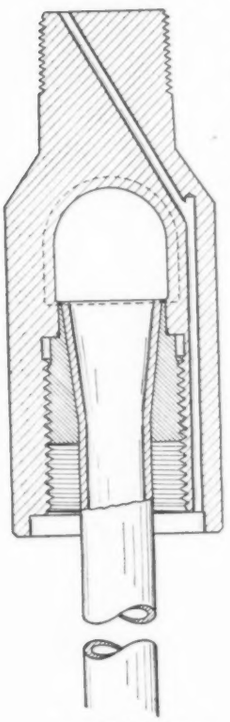
A SUBSIDIARY OF
BLACK-SIVALLS & BRYSON, Inc., Bartlesville, Okla.

OKLAHOMA CITY — OKLAHOMA

(Formerly AMERICAN TANK COMPANY)

Hughes Tool Company

LUBRICATOR CAGE FOR ROCK BIT



Forged lubricator gage

Hughes Tool Company, Houston, is exhibiting the lubricator cage for rock bit which is manufactured from chrome nickel steel. This device has been developed to overcome cutting action of sand laden flushing fluid. This was accomplished by enlarging small drilled ports of previous design into two large ports. The new ports are of so greater capacity and of such shape that eddy currents within the cage and wash pipe throat are almost eliminated. The steel forging adds materially to the strength of the steel and therefore to the finished product. The wide open ports affords a good eyelet through which to pass the cat line hook.

CORE BARREL VENT

This part of the core bit represents an improvement over the older design valve, consisting of two parts, vent plunger and vent cylinder. The vent plunger screws into the top of the core barrel. Vent cylinder screws into top of working barrel. A rubber packing ring effectively seals against mud leakage. A removable seat and ball with cotter pin retainer are provided to prevent ingress of mud to core from wall of hole when lifting core bit from bottom. A strainer, screwed into bottom of vent plunger, prevents fouling of ball check and discharge passage ways. This core barrel vent allows for complete pressure relief on core because fluid above core is discharged outside of drill stem instead of inside against pump pressure and allowing pump to be run at best speed for removing cuttings and burning of core.

Core Barrel Vent

CORE BIT PLUG

The core bit plug consists only of a mandrel screwed into a steel thimble. When going into the hole, plug rests on shoulder in cutter head and prevents fouling of core from wall scrapings, bridges and bottom settlings. When bit reaches bottom, plug slides up core barrel ahead of core, eliminating necessity of flushing barrel before coring operations are begun.

DRILLING-THRU CONTROL MASTER

This valve has side outlets and was designed to meet conditions where high gravity oil and gas at high pres-

Cast Steel Drilling Valve 6000 lbs. Test Design

Cone Bit plug complete

Combination Drilling Valve and Cross, 6000 lbs. test pressure

Combination Drilling Valve and Cross, 3000 lbs. test pressure

RESISTCOR

Should Pipe Lines Be "Coated"—or PROTECTED?

OUR THANKS and AN INVITATION

To those who have come in to see us during the Petroleum Exposition we want to express our thanks.

If you haven't been by be sure and come in before the Show is over.

A rather searching question!

But it can be answered to your entire satisfaction. RESISTCOR positively withstands soil stress and all other injurious underground conditions.

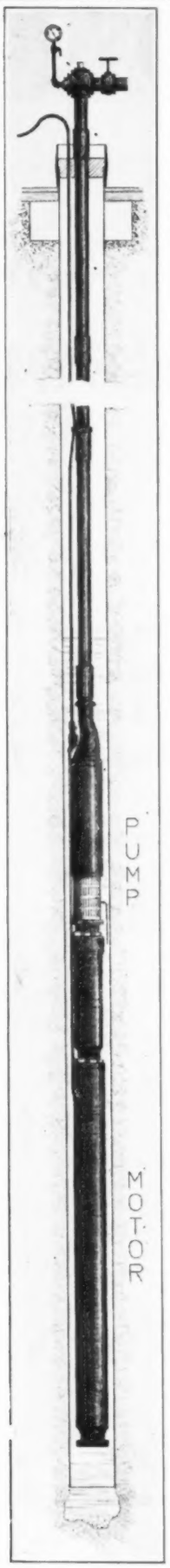
We invite an opportunity to prove to your satisfaction that RESISTCOR is THE ideal Protective Coating. YOU BE THE JUDGE!

RESISTCOR

ENGINEERING CORPORATION

TULSA

MEMPHIS KANSAS CITY DALLAS



sures are encountered. Its use decreases the overall height of the Christmas tree and is claimed to eliminate one nipple and two casing threads. Side outlets can be furnished with either male or female thread. Seats have ample clearance and all parts, except body, are interchangeable with Hughes drilling valves of same size and pressure.

TOOL JOINTS

Hughes tool joints are again included in the exhibit showing Hughes "Acme" thread, Hughes "V" thread, and Hughes A. P. I. thread. In addition to the smaller sizes this company is now furnishing the trade tool joints of chrome nickel steel in all sizes.

Reda Pump Company

PUMPING UNIT

Reda Pump Company of Bartlesville, Oklahoma, is showing the Reda pumping unit for pumping oil wells by means of electric motor installed at the bottom of the hole. The unit is comprised of three major parts: motor, protector and centrifugal pump.

The unit is lowered on the end of the tubing which is attached directly to the discharge pipe of the pump. In turn the pump is attached to the protector which serves as a connecting link to the motor below.

The motor is of the enclosed type and while of small diameter it is of sufficient length to develop the required amount of power. The protector is the mechanism between the pump and the motor which prevents the surrounding fluid from entering the motor. The shaft of the protector transmits the power from motor to pump. The pump is of the multi-stage centrifugal type. The fluid is taken in at the base of the pump and after passing through the impellers is discharged at the top into the tubing. Screen is provided at the intake of the pump to keep out any large bodies of foreign matter which may be encountered.

The cable which supplies the current to the motor is of special design and so constructed that, while armor clad, oil, water and pressure proof, it is sufficiently flexible to be easily handled.

The starting valve, located in the tubing just above the pump, automatically restricts the pump's delivery until fluid reaches the surface, to insure the motor against an overload.

The Christmas tree consists of gate-valve, pressure gauge on the stub and indicating orifice meter in the lead line.

Depth of installation is governed by the condition of the well. In wells with high fluid level a submergence of 500 feet is sufficient to deliver large amounts of fluid, while in wells of low fluid level it is necessary to go clear to the bottom.

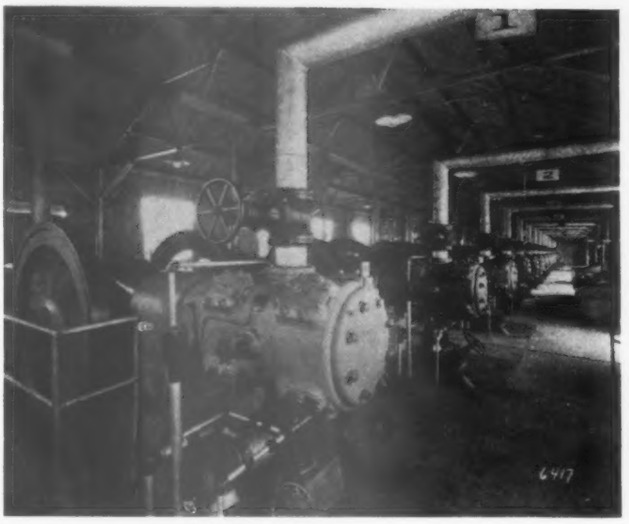
Keystone Driller Company

KEYSTONE SPUDDER

Keystone Driller Company is showing a new deep-well spudding machine, which is offered for oil and deep water wells to a maximum depth of 2500 feet. The machine is mounted on one traction frame, is operated by an internal combustion engine and is adapted for handling the proper size of cable tools with wire line to moderate depths and without the use of a temper screw.

The Keystone two-sheave spudding device combines features of efficient drilling motion for cable tools and greater depth by use of wire rope. The application of wire line to the machine has greatly extended the depth to which the Keystone spudder can be used. Portability of the machine is another very desirable feature, the machine being mounted on half-crawlers, properly placed to carry the bulk of the weight while in traction. The steering wheels are of large diameter, large tire surface, and are located at the drilling end of the machine. They are controlled by a hand wheel from the driver's platform at the rear. The machine can be driven conveniently in either direction.

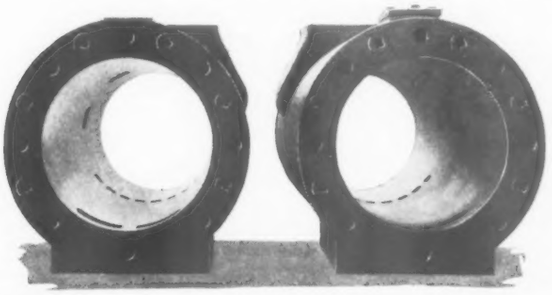
WHEN Better Engines Can Be Built---CLARK BUILDS THEM



Buyers of CLARK Engines profit by every improvement made possible by progress in engineering practice. They also find new CLARK Engines developed whenever necessary to meet the changing requirements of the oil industry.

Many noteworthy improvements in design and construction have been pioneered by CLARK. The most recent of these is the use of the very latest type of equipment for honing all power and compressor cylinders.

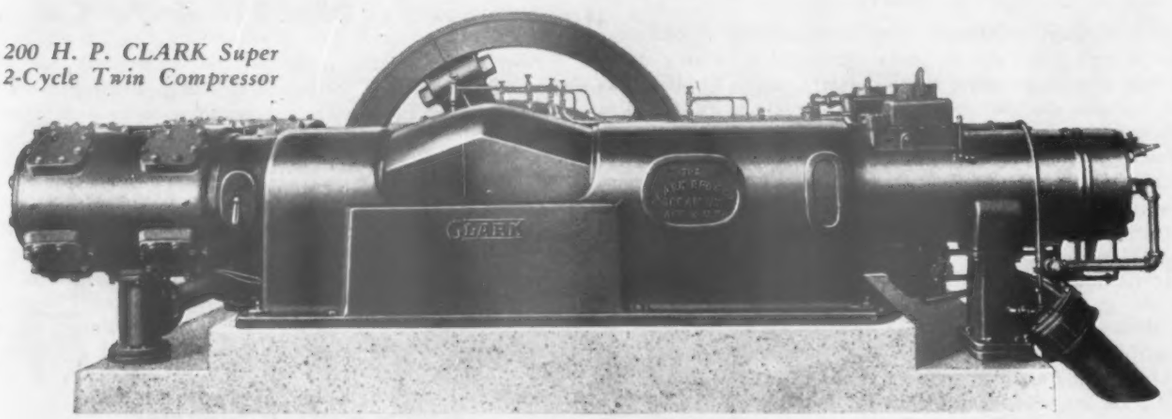
CLARK developed the first perfected and efficient 2-cycle gas engine, the first successful double-acting engine, and the first pumping engine unit with compressor cylinder attachable without change in engine bed plate. And now—to meet definite needs in the industry—CLARK is introducing three new machines. These are: the CLARK 8-cylinder Vertical Gas or Gasoline Engine; the CLARK 60 H. P. Direct Connected Compressor, and the CLARK 2-cylinder Vertical Pumping Engine.



HONED CYLINDER UNHONED CYLINDER

The above un-retouched photographs show the mirror-like finish imparted to all cylinders by the CLARK honing process, as compared with cylinders finished by ordinary methods. Honing increases the efficiency and lengthens the life of the cylinders.

200 H. P. CLARK Super 2-Cycle Twin Compressor

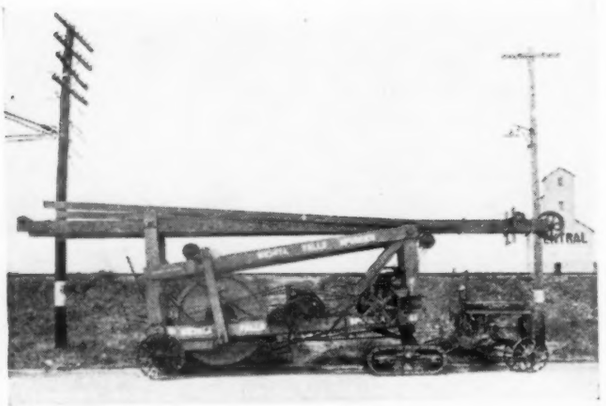


CLARK BROS. COMPANY
Olean, N. Y.

Export Offices: 150 Broadway, New York, N. Y. *Mid-Continent Sales Offices:* Tulsa and Fort Worth. *Warehouses:* Tulsa; McCamey and Sweetwater, Texas; Artesia, N. M. *California:* Smith, Booth, Usher Company, 228 South Central Avenue, Los Angeles, California.

CLARK

Clark Machine Company



WICHITA FALLS SPUDDER

Clark Machine Company, Wichita Falls, Texas, is showing the Model 61 spudder which has main frame dimensions of six feet by 16 feet by 23 feet six inches. The bandwheel has a 98 inch diameter by 15 inch face, which is held in place by two heavy flanges. The calf wheel is located at the front of the machine next to the mast so the pull is straight down eliminating back of machine raising up when pulling heavy strings of casing. This wheel has double brakes, two forward speeds and one reverse, high speed for picking up empty blocks or light loads. The drum spools 8000 feet of ¾ inch drill line. Mast of this machine is five inches by 14 inches by 46 feet in length and is heavily reinforced for handling pipe. Length of stroke of this machinery is 15 inches by 41 inches by 45 inches by 52 inches. All bearings run on ball or roller bearings or are heavily brass bushed.

Worthington Machinery Corporation Of Oklahoma

PUMPS

Worthington Machinery Corporation, Tulsa, is showing a line of centrifugal pumps, power pumps, direct acting steam pumps, air compressors, multi-V-drives, steam turbines, gas engines and electric motors. The complete units shown in this exhibit consist of a special salt water pump constructed of acid bronze and stainless steel having a capacity of 350 g. p. m. against a 400 foot head. This unit is direct connected to and driven by a 60 h. p., 3500 r. p. m. Terry steam turbine.

A 30,000-barrel main oil line centrifugal pump is shown direct connected to a 250 h. p. 3500 r. p. m. electric motor. A 1000 g. p. m., 350 foot head, two-stage centrifugal pump is shown direct connected to and driven by a 125 h. p. electric motor.

One of the totally enclosed horizontal power pumps is being shown, which is driven by a 100 h. p. Hercules gasoline engine or gas engine. The power is transmitted through Multi-V-belt drive. Two types of compressors are exhibited, one being a seven by six duplex vertical feather valve compressor direct connected to an electric motor, the other being a 6½ by six single cylinder vertical feather valve compressor driven by an electric motor through a Multi-V-belt drive.

A new 10 by 4½ by 10 duplex direct acting steam pump with divided piston rods and removable liquid cylinders is also shown.

Stoody Company

FLUX COATING FOR BORIUM

Stoody Company, Whittier, California, is introducing for the first time a flux coating for borium which it claims will completely protect the borium while it is being applied, so that, even though it be applied with the electric arc, formations of the oxide of tungsten will be impossible and the solid metallic borium will become embedded in a much harder protective matrix than was formerly obtained.

This flux coated borium may be obtained in tube form if desired and in this form the application consists in simply using the tube as the negative electrode of the electric welding arc and melting it down as any mild steel electrode would melt down. When the flux coated classified pea borium is used, mild steel rod, high carbon rod, or alloy welding rod may be utilized as the electrode of the electric welding arc and melted down over the borium. Either the pea size borium or the tube borium may be applied equally well with the oxy-acetylene torch. This flux coating, when being applied to borium, protects it from heat as well as from oxidation, protects it from attack, yet during the operation breaks into protective gases and harmless slag which floats to the top of the weld and is easily brushed off as soon as the weld cools. The borium itself in the welding procedure offers a clean surface to which the molten metal forming the matrix adheres and the completed deposit will be found solid throughout and free of oxide or other impurities.

Climax Engineering Company

DRILLING UNIT

Climax Engineering Company, Chicago, is displaying the eight-cylinder, 200 to 250 H.P. Holemaker, designed for deep cable tool and rotary drilling, completely equipped with radiator, telegraphic control, gas mixing valve, standard accessories and drive pulley supported by rugged outboard bearings.

PUMPING UNIT

A new pumping engine of the six-cylinder, 150 H.P. type is shown mounted on sub-base and direct connected to forward and reverse pulley drives. This unit has been primarily developed for quick and easy adaptation to the new pumping rig fronts now being used in a number of the fields.

GENERATING UNIT

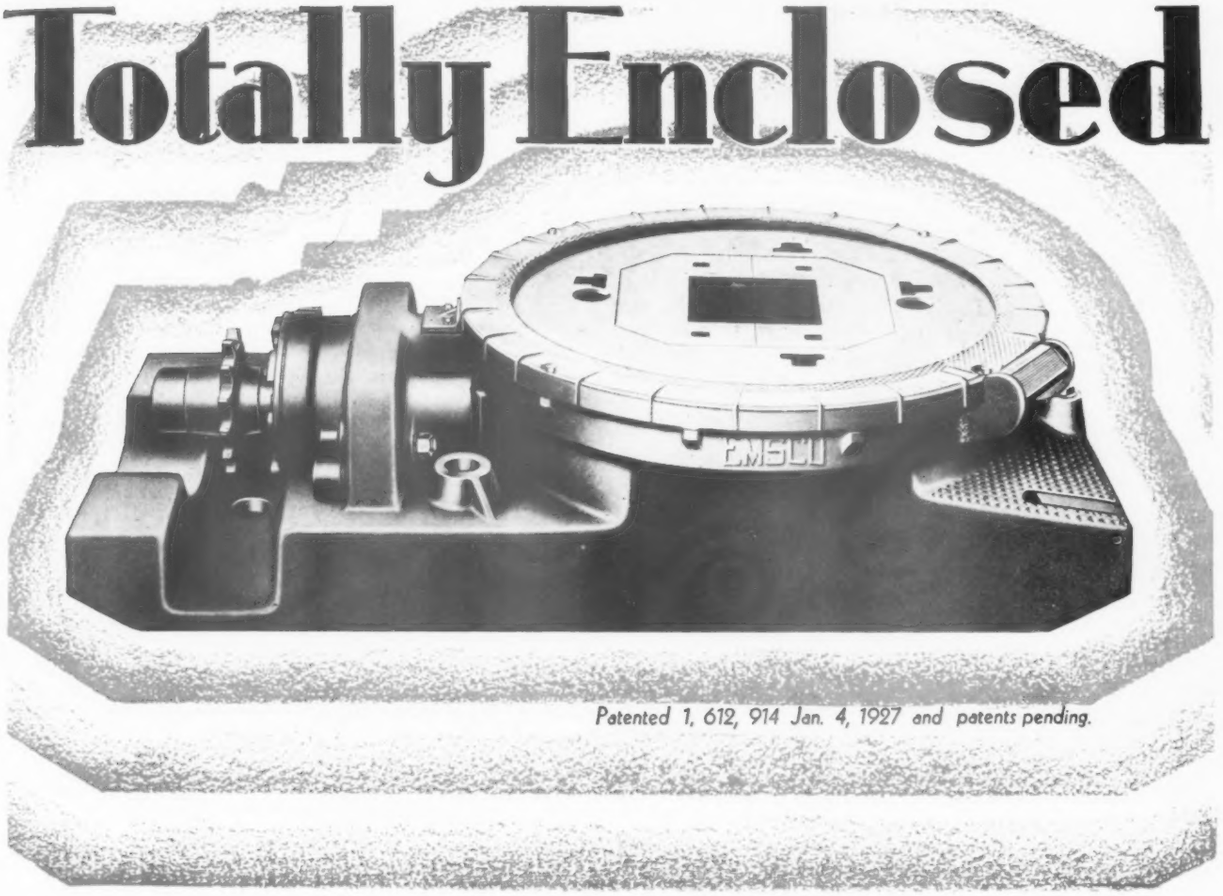
A six-cylinder generating unit of the 150 H.P. type is being shown. This generator is direct connected to the motor and is completely assembled and mounted on sub-base, making it a portable unit. All equipment shown is equipped with "Blue Streak" valve-in-head engine, burning three types of fuel, gasoline, natural gas and distillate.

S. K. F. Industries

SPHERICAL BEARINGS

S. K. F. Industries, New York City, is showing the inherent self-aligning characteristics of spherical bearings under actual operating load conditions. In addition there is a complete display of a range of S. K. F. ball and roller bearings applicable to all modern types of oil field equipment. The entire exhibit is framed in an artistic background.

Totally Enclosed



Patented 1, 612, 914 Jan. 4, 1927 and patents pending.

EMSCO

TYPE "H" 27½"

All-Steel One Piece Base

ROTARY MACHINE

Among the important features of this Emsco Rotary Machine are the double mud seal...heavy one-piece base...improved type tapered roller bearings for the table ...special lifting hooks...S. K. F. pinion shaft roller bearings...ring guard...splash lubrication...and unitary bearing housing.

Engineering Folder No. 109 gives complete description and detailed specifications.

EMSCO DERRICK & EQUIPMENT CO.

6701-7101 South Alameda Street — Los Angeles, California

Export Office:
CONTINENTAL EMSCO COMPANY, INC.
74 Trinity Place, New York City

All Emsco and D + B Products (Except Derricks) Sold Exclusively in Mid-Continent Fields by The Continental Supply Company

Baash-Ross Tool Company

BLOWOUT PREVENTER AND TUBING HEAD

Baash-Ross Tool Company, Los Angeles, California, is exhibiting several new articles of equipment, among which is the new combination blowout preventer and tubing head which has been developed to meet the most severe condition of the wildest well.

This preventer serves as a blowout preventer while drilling, and as tubing head upon completion of the well. Another item of interest is the new improved pumping unit.

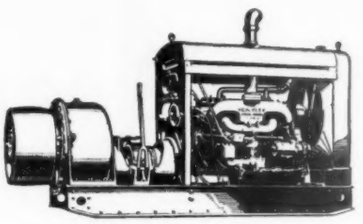
The company is now manufacturing a line of individual pumping units for any well up to approximately 4500 feet in depth. This unit is being run as a demonstration at the exhibit.

Other items on display include: slips, perforating machine, tubing protectors, cementing shoe guide, rake tooth bit, rotary jar, wire rope, packing overshot, and holding tool. In addition to this equipment there is also a number of other items of equipment made by the company for use in the oil industry.

Star Drilling Machine Company

Star Drilling Machine Company is showing for the first time the new No. 49 heavy duty spudder. The machine will drill to 3500 feet and will equal the capacity of five-inch standard rig irons. Its bull reel has a capacity of 8000 feet of one-inch line. The machine will handle 5½-inch by 36 foot stem in big hole. The No. 49 spudder is furnished in either the C (countershaft) type or in the super tractor, self-moving type.

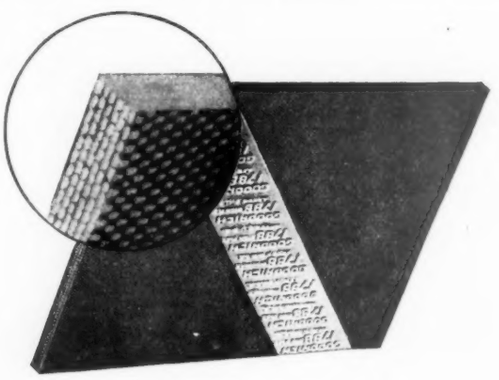
One of the smaller Star rigs, the No. 43, is being shown. This rig will drill to a depth of 1500 feet and clean out to proportionately greater depths. This is built in three different models.



STAR DRILLING ENGINE

The Star drilling engine is built for portable and standard outfits. These engines have instantaneous reverse with single lever controls, forward, center, and reverse as on steam engines. They are powered by four-cylinder 105 h.p., engines which will operate on either gasoline or natural gas.

Tulsa Rubber Products Company



BELTS AND PACKING

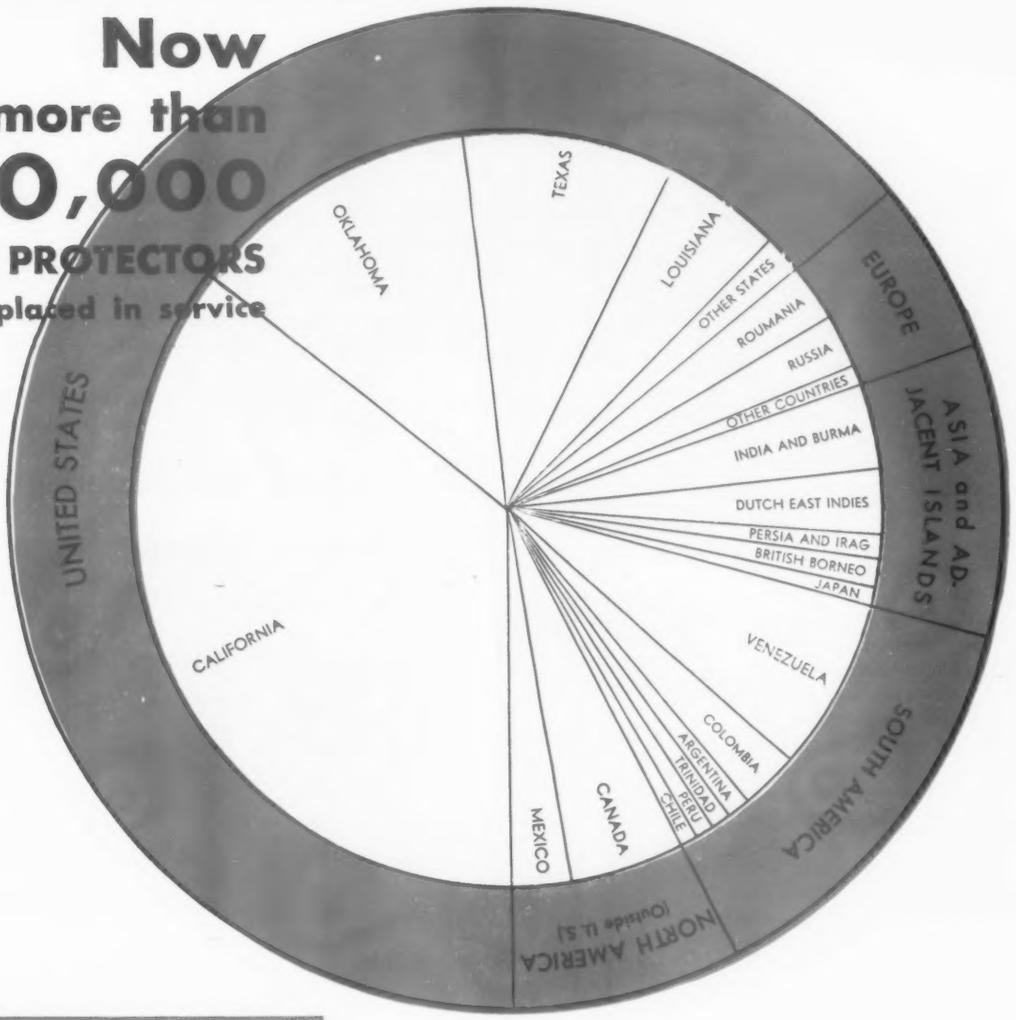
Tulsa Rubber Products Company, Tulsa, is displaying a number of different items in rubber which are handled by the company. Silvertown tires and tubes, as well as airplane tires and accessories, Goodrich Highflex belting—"the Raw Edge Belt," rubber anode electrician gloves and acid gloves for refinery use. Packing, all types of rubber hose, including garden, water, welding, gasoline, suction, steam and air are carried in this exhibit. Rubber boots and shoes for oil field service are other items listed in this company's display.

The Sullivan Company

FISSURSEAL

Sullivan Company, Memphis, Tennessee, is showing Fissurseal which is a combination of Konset, liquid slush mix and Fibermix. Fissurseal is a powerful, congealing product with expanding properties that is introduced into the slush. Its chemical reaction is not made with clay or other muds but is used along with them. The combination of chemicals is especially prepared and added to the slush separately, either in the pit, or in whatever way the special condition suggests. It enters the porous strata, cave or hole and promptly sets in the chemical action. It will not only help to wall up the hole, but acts to relieve agitation, gas pressure and other unfavorable strata conditions that menace production. By using Fissurseal with the mud prior to cementing, there is little danger of the operator having further water trouble. This material can also be used in certain other ways in restoring circulation caused by cracks and fissures in the strata.

Now more than 310,000 BETTIS PROTECTORS placed in service



An international necessity in every rotary field

The chart shows the proportional demand for Bettis Protectors in the various rotary fields throughout the World—proof of the international standardization accorded the most essential drilling specialty.

PATTERSON-BALLAGH CORP.
INSURANCE EXCHANGE BUILDING
LOS ANGELES

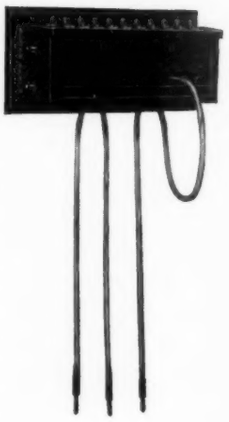
Texas and Gulf Coast Distributors:
Bettis Sales Co., 917 Merchants & Mfrs. Bldg., Houston
Oklahoma Distributors.
Bailey & Becker Company, 410 Thompson Bldg., Tulsa
New York Office: 39 Cortlandt St.

Carried in stock at Los Angeles, Ventura, Kettleman Hills, Bakersfield, Coalinga and Long Beach, California. Tulsa and Oklahoma City, Okla. Houston, Texas. Hobbs, N. M. Calgary, Alberta, Canada. New York City.

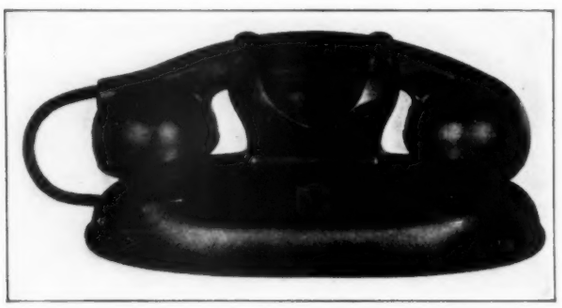
"Best bet yet!"

Kellog Switchboard & Supply Co.

MASTERPHONE AND SWITCHBOARD



Kellog Switchboard & Supply Company, Chicago, is showing a line of P. B. X. switchboards, wall switchboards, masterphones and other types of telephones and an extensive list of parts and supplies. The switchboards have been built compact so that they will use a minimum of space in the office and yet will have all the service features of the larger boards. The Masterphone is designed to stand rough usage, handle easily and give efficient service over a long period of time. The list of supplies displayed is the new and improved equipment that will be most needed by the user on the shortest notice for the maintenance of efficient telephone selvice.



Barco Manufacturing Company

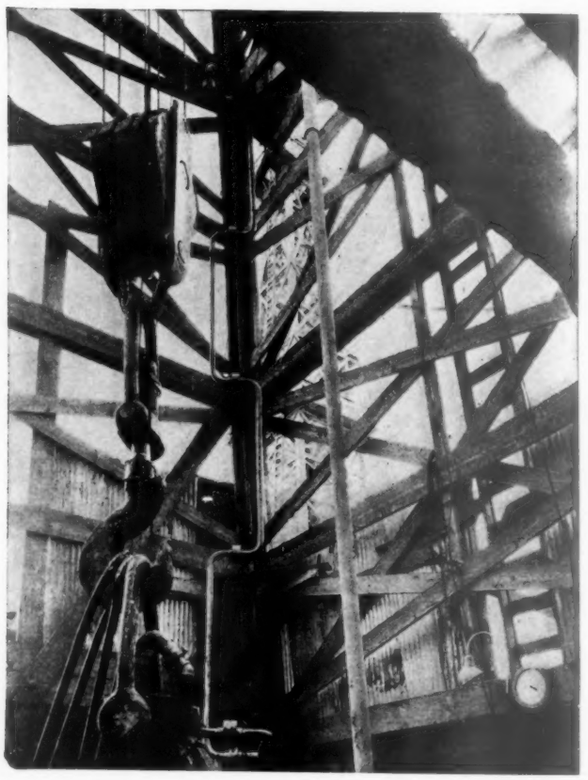
LUBRICATED PLUG VALVE

Barco Manufacturing Company, Chicago, is showing the lubricated valve plug which is equipped with a retainer gland so that the valve may be repacked under line pressure without any danger of the plug blowing out. The fit between the plug and body is so perfect that the lubricant is not relied upon to make a tight seat. On the larger valves wheel handles are furnished and where ordered the valves are equipped with a planetary geared handle on the larger sizes. In most of the smaller sizes, special port plugs may be had for fine throttling, where this feature is required. These valves are available in all sizes and types, of metals best suited for the service required and are furnished for high pressures and temperatures as well as low pressures and temperatures and vacuums.

FLEXIBLE JOINTS

The Barco flexible joints are provided with two non-metallic gaskets forming two separate and distinct seats, one on either side of the ball, insuring absolute tightness under either suction or pressure. These gaskets provide long service and wear may be taken up by a slight tightening of the nut without any replacement or repacking. Joints are furnished with flanged ends, faced and drilled, or faced only, in sizes from four inches to 48 inches inclusive. These joints are used on sand suckers, dredges, water works pipes and hydraulic lines to relieve pipe strains.

MacClatchie Manufacturing Company



ALL-STEEL ROTARY HOSE

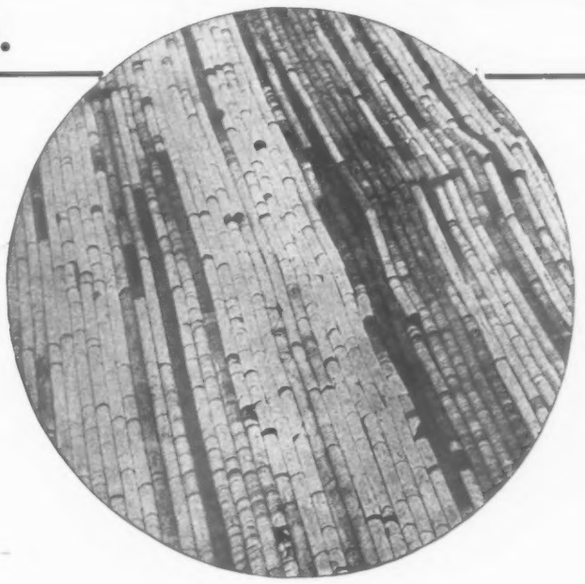
MacClatchie Manufacturing Company is showing the new all-steel rotary hose which is featured by maximum flexibility under highest pressures, unobstructed flow with no sharp bends, leak-proof, and low upkeep costs. Each swivel joint is identical, being made of hardened nickel steel, with hardened steel balls to insure minimum friction. Alemite lubrication is used.

BOILER REGULATOR

The boiler regulator is entirely automatic in its action, insuring a constant water level under all circumstances. Expansion and contraction of the Tobin bronze tube controls the flow of water into the boiler through the movement of a balanced piston.

Other specialties being shown include: geared brake for

D. D. C. CO. CARBON



Diamond Drill Cores Tell the Story

Diamond drilling, properly handled, is extremely profitable. On the other hand, the cost is sometimes prohibitive. *It all depends on the quality of the Carbon used.*

After nearly half a century of successful experience in this field, this Company recommends first-grade Carbon for *all* kinds of diamond drilling. First-grade Carbon shows little or no wear in soft measures. It is indispensable in hard formations. *It is always most economical.*

The chief problem, then, is—how to be sure of getting first-grade Carbon. The answer is—D.D.C.CO. TESTED CARBON.

Every TESTED CARBON is, as nearly as human skill can determine, a perfect stone—carefully selected for hardness, toughness, and structure. Each stone is rounded to remove sharp corners and edges. *This entirely eliminates the major cause of diamond losses.* There are no projections on TESTED CARBONS to break off and fall in the hole and thus break up or grind away the other stones in the cutting crown. Rounded stones also save setter's time.

TESTED CARBONS are guaranteed, unconditionally, to give you satisfactory service. You are the sole judge. You can have your money back in full, or replacement of stones that are not satisfactory to you, on request.

Booklet and complete information about D.D.C.CO. TESTED CARBON, on request. *It will pay you to investigate.* To responsible operators, we will gladly send assortments of carbons for examination and selection. You incur no obligation, expense, or risk, as all diamonds are insured by us while in transit both ways.

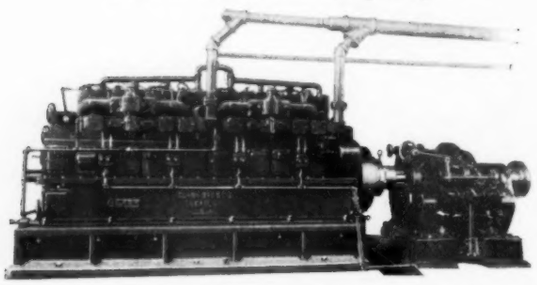
You can always depend on D.D.C.CO. CARBON

THE DIAMOND DRILL CARBON COMPANY

Executive Office: 52 Park Row, New York, N. Y. *Telegraph Address:* CREDOTAN, NEW YORK

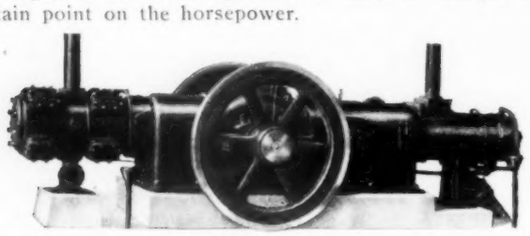
draw works, mud pump valves, automatic safety cathead, stop-cocks and quick unions, flow nipples and beans, line and seat pullers, and the automatic expansion rotary underreamer. Parts of the MacClatchie "Panther," aviation's first L-head radial motor, are on display.

Clark Bros. Company



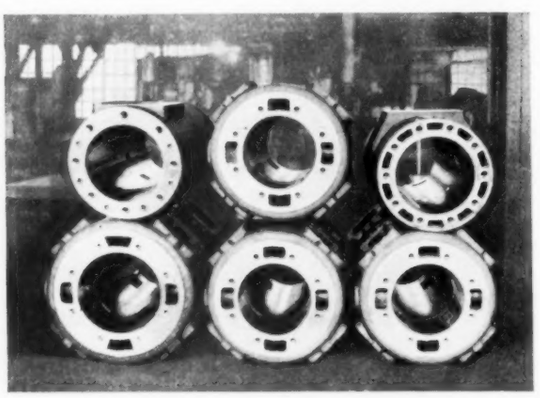
GAS ENGINES

Clark Bros. Company, Tulsa, is showing an eight cylinder vertical gasoline or gas engine that is of the four-cycle type, having nine-inch bore and 11-inch stroke. This machine can be used in connection with generators, auxiliary drive or rotary drilling equipment, as well as cable tool drilling. An added feature of the exhibit is a hook-up of a Froud hydraulic dynamometer imported from England. The purpose of this dynamometer is for load testing. The machine is automatic, automatically maintaining the load on the engine when the weight on the beam is brought to a certain point on the horsepower.



TWO CYCLE ENGINE

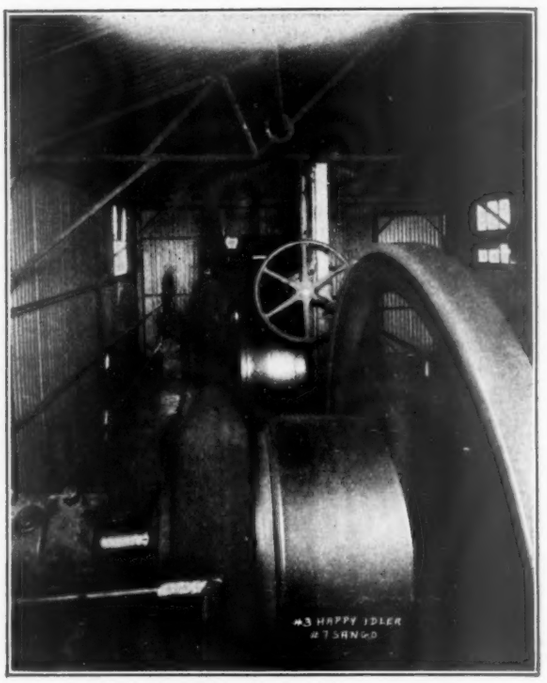
The new 60 h. p. two cycle engine is a gas engine connected direct with compressor unit. This machine is similar to the Clark 100 h. p. super two cycle compressor in design.



CLARK HONED CYLINDERS

Large size photographs of the honing machine are shown which this company has at the factory. The use of this machine in honing cylinders eliminates much of the wear and necessity for having cylinders rebored so often. The honed cylinders with their high, smooth polished surfaces do not wear the piston rings very rapidly.

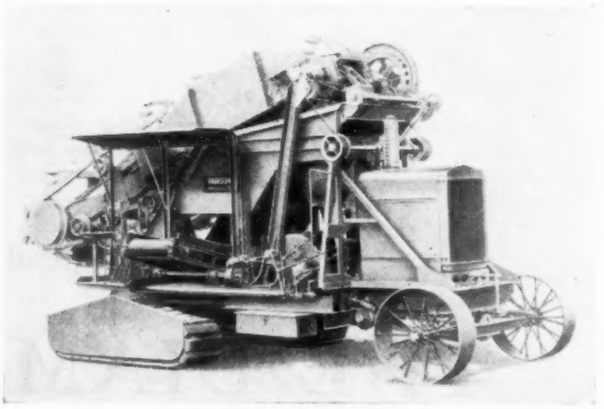
Happy Belting Company



IDLERS AND BELTS

Happy Belting Company has on display a complete line of idlers and tighteners for the application of endless belts to all oil field operations. In addition to the Automatic band wheel power idler and the No. 3 vertical tightener for beam wells they also have their new "E-C" (engine to countershaft) on display. This tightener is to be used where a countershaft is used and makes it possible to use an endless belt for this work. All of the tighteners are shown in one-quarter size working models and are in operation.

National Equipment Corporation



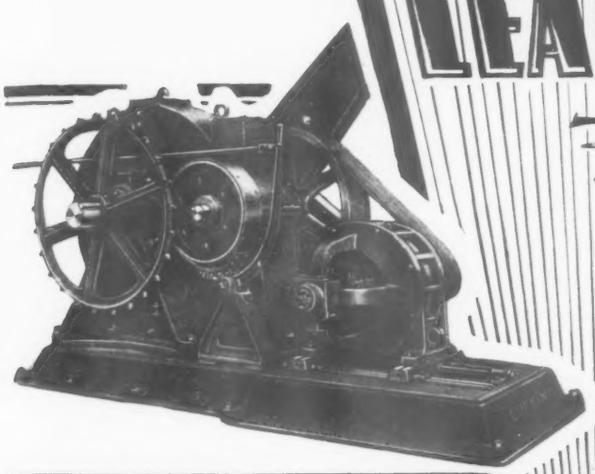
PARSONS DITCHER

National Equipment Corporation, Milwaukee, is showing the Parsons ditcher designed for pipe line construction work.

LUFKIN ALWAYS LEADING

The LUFKIN HERRINGBONE UNIT FOR PUMPING AND PULLING

The LUFKIN WORM GEAR UNIT FOR PUMPING AND PULLING



The Sykes-Herringbone Gears used in this Unit are latest and most popular type of the line of Lufkin Pumping Units. Designed to stand the most severe operating conditions the Herringbone Unit is found readily adapted to the oil field pumping use.

The Sykes Herringbone Gears used in this Unit are of heavy construction, are superior in strength and are silent in operation. Freedom from back-lash; continuity of tooth contact and maximum tooth surface for width of gear face, are features of this type gearing. This Unit is easily adapted to any type of power drive, particularly single cylinder gas engines. Having the right kind of "fall" makes this Unit ideal for cable tool drilling.

The Lufkin Worm Gear Unit is the original perfected Lufkin Unit. This Unit employes the use of a Nickel Alloy Steel, heat treated steel worm driving a special bronze gear. It is furnished for either direct connection to electric motor or gas engine and is also furnished with "V" belt drive to accommodate regular motors. It is also furnished for connection to single cylinder gas engine. Many operators maintain that the Worm Gear is the most practical pumping Unit.

We recommend both and say it is a matter of choice —"some prefer blonds, some brunetts" but there are jobs where one Unit is more practical than the other.

Manufactured at Lufkin, Texas, by

THE LUFKIN FOUNDRY AND MACHINE CO.

District Offices

THE LUFKIN LINE **Tulsa, Okla. Houston, Texas** THE LUFKIN LINE

Los Angeles, Cal. Seminole, Okla. El Dorado, Ark. Odessa, Texas New York, N.Y.

Use Scissors Here

We are Interested in Economical Oil Production equipment. PLEASE SEND COMPLETE CATALOGUE

NAME COMPANY CITY STATE

Templeton, Kenly & Company, Ltd.

SIMPLEX JACKS

Templeton, Kenly & Company, Chicago, has on display a complete line of lifting and screw jacks ranging in capacities from one ton to 35 tons. The three models being shown are best suited to the oil industry. The No. 22 is a 10-ton model recommended for general repair work and for trucks, the No. 310 is a 15-ton capacity jack which operates at an angle, and the No. 126 jack which is of the 25-ton capacity and is designed for lifting tanks and for other heavy duty service. The exhibit also includes screw jacks, pipe pushing jacks and Simplex push and pull jacks. A novel feature of this exhibit is a Simplex 12-ton jack operating automatically.

Maloney Tank Manufacturing Company

VAPOR PRESSURE TANKS

Maloney Tank Manufacturing Company, Tulsa, Oklahoma, is exhibiting a cross section model, vapor pressure tank.

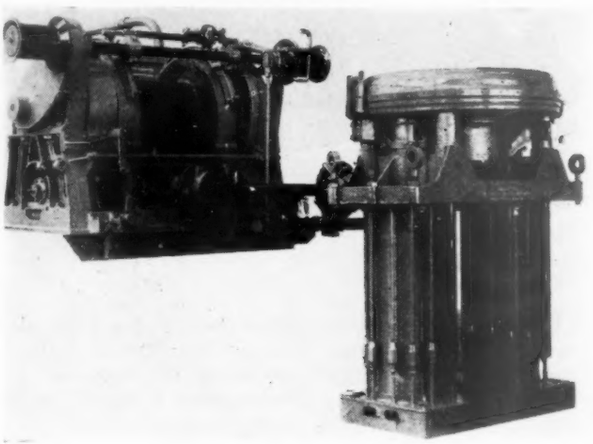
This company also has on exhibit the new combination thief hatch and vacuum pressure valve. Two of the 250-barrel tanks used in the "Automatic Pipe Line Pump Station," a unique exhibit adjacent to the Refiners and Marketers building, were furnished by this company. These tanks are of No. 12 gauge Keystone blue annealed sheets. One-half inch bolts are used throughout in all the seams, bolts being of 90,000-pound tensile strength. The tanks are painted aluminum and one of the combination pressure valve and thief hatches is installed in each of the decks.

Doheny Stone Drill Company

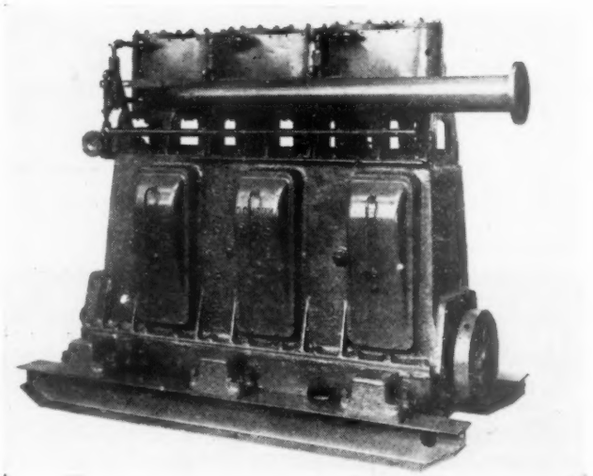
HYDRIL OUTFIT

Doheny Stone Drill Company, Torrance, California, is operating the complete Hydrill No. 3 outfit in conjunction with the Hydril gas control packing head demonstrated under pressure. Complete operation of the outfit, including the rotary, the drawworks, the gas control and the No. 3 steam engine, shows the control of each part and the ease with which the speed or action of these parts can be instantly and delicately varied. In addition to the No. 3 outfit, they also show a No. 2-C outfit, mounted on a steel frame connected to an electric motor and a No. 1-B Hydril outfit. Other exhibits are: No. U-2 well pulling outfit mounted on a steel frame and having the ability to pull an 8000-foot well, separate transmission casing, the core barrel, the flush joint drill pipe and tool joints, and flush joint casing and couplings. Another feature of the exhibit will be the new Hydril Angle Indicator.

Doheny Stone Portable Well Puller



Hydrill Drilling Equipment



Hydrill Steam Engine

EVERYTHING in the rig BLEW OUT, *but* "MONARCH" Rotary Hose

"Couplings blown off without damage to the hose."

"On July 27, 1929, we purchased one of your 2½" x 45' lengths of Hewitt Improved Monarch Rotary Hose. We purchased this hose when we started our well at _____.

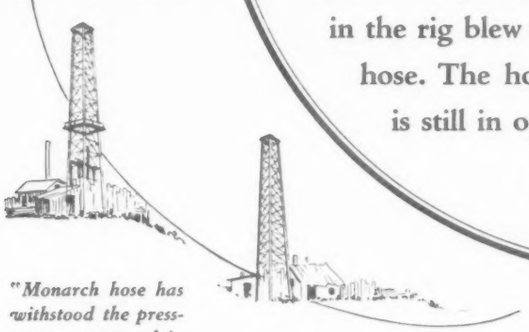
"We are operating in this rig two 6¾"x14" power-driven pumps. The water ends of these pumps were blown out two different times, and the manifold was also blown out. In fact, we might state that practically everything in the rig blew up with the exception of the rotary hose. The hose is still in A-1 condition, and is still in operation."

(Name on request)

PRODUCT OF

HEWITT-GUTTA PERCHA RUBBER CORP'N

MECHANICAL RUBBER GOODS FOR EVERY INDUSTRY



"Monarch hose has withstood the pressure encountered in four stratas of gas sands."

"It is very gratifying to have a hose that stands the abuse of Monarch."

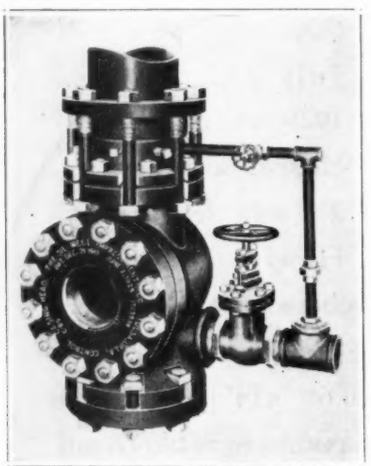
OIL FIELD DISTRIBUTORS

OIL WELL SUPPLY CO.

Oil Well Improvements Company

Packing Head

Oil Well Improvements Company is showing its new packing head which controls the flow through outer strings and supplements the control casing head which controls the fluid in the inner string of casing. This packing head provides outlets for taking gas from between strings and provides means whereby gas or water may be muffled off. A single standard bowl or body section will pack off between the smallest size casing and any larger in the series. The unit is of all-steel construction with forged steel couplings and split rings. Each bowl or body section may be used interchangeably as a packing head against the collar or braden head against the pipe.

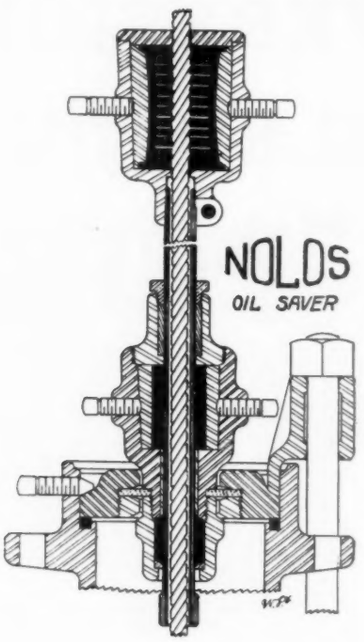


CONTROL HEAD

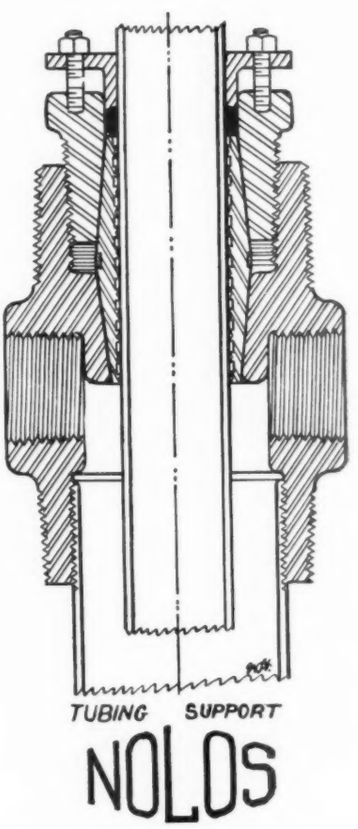
The new all-purpose control head on exhibit, embodies the features of all interchangeable tops and companion casing flanges, the head may be converted into set screw, latch assembly, or lubricating type and handle any casing or thread from 9-inch O. D. down to four-inch with the same control head body and without changing oil savers.

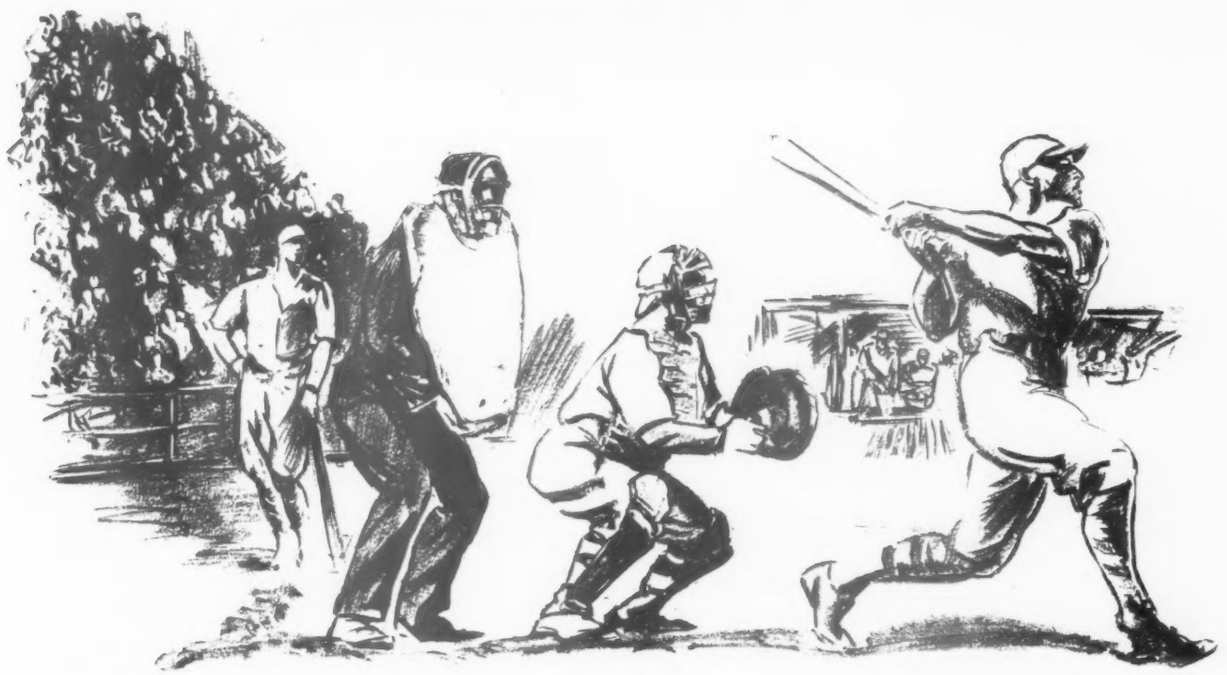
OIL SAVER

The Nolos straight line oil saver is designed to work under exceptionally high pressures and permit drilling with the well practically shut in. A steel jacket surrounds the drilling line to which it is clamped through a special stuffing box which in addition to its function as a clamp, serves also as an oil saver when running tools in or out of the hole. A pair of lugs on the stuffing box allows connection to be made by links to the drilling clamp to maintain a fixed position relative to temper screw. The steel jacket passes through a lower stuffing box which is flexibly mounted on a base adapted to fit in the top of a control head. The stuffing box can swing to align with the drilling cable and the steel jacket and stuffing box maintain a straight line relationship. A bottom stuffing box packs off when the jacket is raised to top position and the packing in the main stuffing box may be renewed without danger or loss of oil.



This tubing support has the novel feature of being threaded on the bottom and top for two different sizes of casing, making it possible to make various combinations of connections and to use an upper joint of casing as an overshot when necessary. The tubing support screws on to the casing end and has a conventional tapered seat to re-





THE MANAGER MUST BE SURE OF HIS PLAYERS

THE COMPANY MUST BE SURE OF ITS PERSONNEL

The success of a ball team is not a matter of chance. Each man has been chosen not only for his ability as a player, but also for his willingness to work with the rest of the team. The manager must be sure that his men will cooperate with each other.

The Norvell-Wilder organization has been built like a ball team. Each Norvell-Wilder man has been chosen not only for his knowledge of the business but also for his willingness to serve whenever and wherever needed. Norvell-Wilder men "play ball" with the customer as well as with their own company.

Such a spirit has resulted in the splendid service which characterizes all dealings with the Norvell-Wilder Supply Company in the oil fields throughout the South and West.

Call the Norvell-Wilder Man FIRST

A FEW OF THE WELL KNOWN LINES AVAILABLE TO YOU THROUGH NORVELL-WILDER

Alemite Company
A. M. Byers Company
American Cable Company
Baker Oil Tool Company
Borden Company
Byron Jackson Company
Chain Belt Company
Gardner-Denver Company
Hercules Motors Corporation
Jefferson Union Company
Jones & Laughlin Steel Corporation
Kennedy Valve Manufacturing Company
Kerotest Manufacturing Company
Lunkenheimer Company
Wright Manufacturing Company

Norvell-Wilder *Supply Company*

BEAUMONT HOUSTON SHREVEPORT FORT WORTH

HEAT TREATED ALLOY

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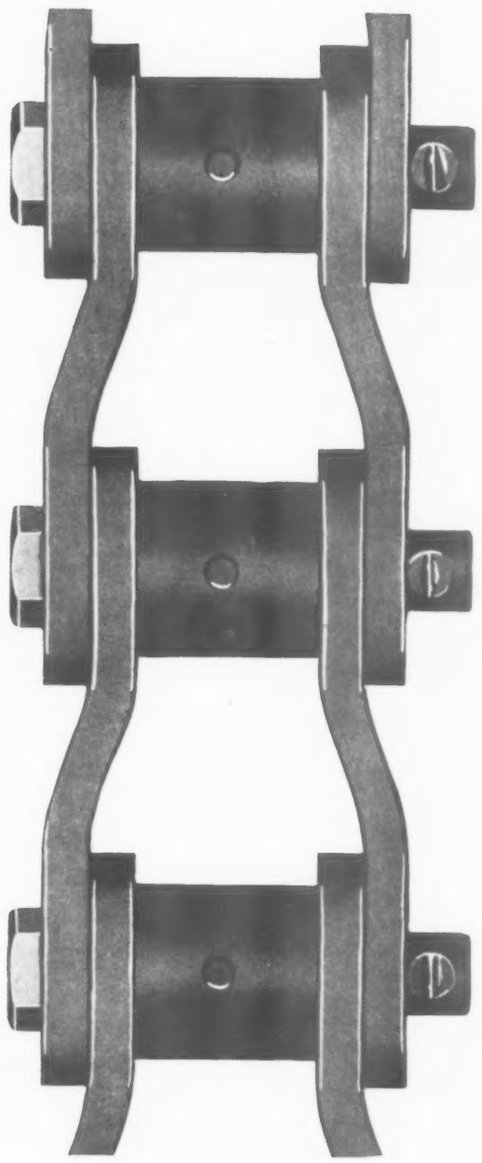
for strength and dependability

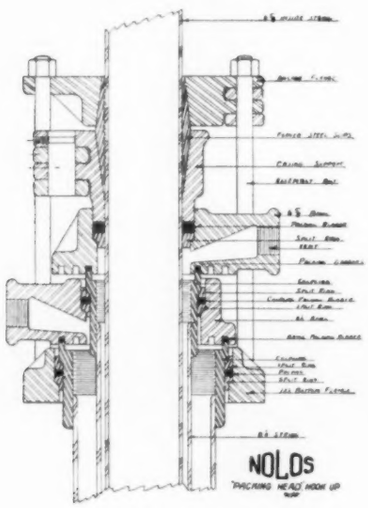
STEEL to many is--- just steel. But in the manufacture of Spengler Drilling Tools it is a special alloy specification, scientifically heat treated for the particular job it is to perform ---- the *right* steel in the *right* place!

SPENGLER TOOL CO.
ROTARY Drilling TOOLS
GENERAL OFFICES AND
PLANT. OKLAHOMA CITY

SPENGLER

E E





ceive slips to support the tubing. The slips are tapered toward each end and not only support the tubing but also act as an anchor to prevent the tubing blowing out of the well. An anchor ring furnishes the taper support for the upper part of the double tapered slips. Above the slips is a packing ring and gland to prevent loss of gas or fluid around the tubing. The slips are held in horizontal alignment by a flat spring encircling the middle portion and holding the slips in close contact with the tubing at all times. This permits the slip to be withdrawn with the tubing when the slip is pulled and also compels a uniform pressure on the exterior of the tubing eliminating danger of crushing due to unequal loading.

Sheldon Machinery Corporation

ROTARY DRILLING EQUIPMENT

Sheldon Machinery Corporation, 15 Park Row, New York City, is displaying a complete line of rotary drilling equipment, featuring the hydraulic feed mechanism, coring machines, deep well drilling units and the flush joint pipe method of drilling against and controlling well pressures.

TYPE "H" ROTARY DRILLING MACHINE

This machine has the principal units mounted on a substantial steel base, an arrangement which facilitates transportation and the erection of the machine. The entire machine may be transported as a unit or may be divided into its units. This machine may be driven with any of the usual power such as steam, electricity, gasoline or Diesel engines.

TYPE "D" MACHINE

This is a light rotary rig with the principal units, including the engine, mounted on the same base. It is rated for production drilling to 2500 feet, and employs a 75 horsepower Waukesha engine. It is provided with a Sheldon-Burden type 40-ton capacity hydraulic feed mechanism.

Other items on display are the Sheldon-Burden Type "HR" hydraulic feed rotary table; the "Hydro-Kelly" hydraulic feed mechanism; and a complete line of drilling equipment including Sheldon-Burden type flush joint tool joints, stuffing boxes, packing, back pressure valves, and other accessories in this class of work.

Sperry-Sun Well Surveying Company

GYROSCOPIC CLINOGRAPH

Sperry-Sun Well Surveying Company has on exhibit a Surwell Gyroscopic Clinograph, Syfo Clinograph, Side Wall Sampler, Model Gyroscope and Scorsby Machine. In addition to this equipment there is also a completely equipped Surwell service truck with instrument and dark chamber for developing films immediately upon the completion of a survey out in the field.

Leavitt Machine Company

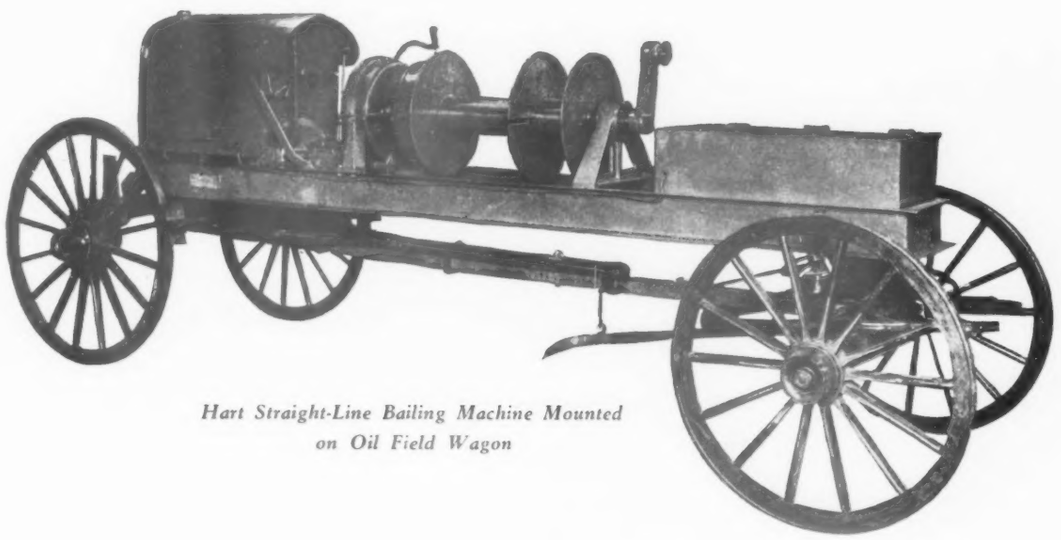
DEXTER VALVE RESEATING MACHINES

Dexter Globe Valve Reseating Machine now on display has the faculty of accurately refacing worn seats and discs so that the valves become absolutely tight. The machine can be attached to any globe valve without removing the valve body from the pipe line. The cutter is automatically centered and a few turns of the handle make the seat perfectly smooth and true. Valves may be reseated from 10 to 20 times, each performance making the valve as tight as new. These reseating outfits come in sizes for valves ranging from ¼ to three inches up to ¼ to 12 inches.

The Dexter pump valve reseating machine is another feature that is gaining much attention among the exhibits. Seats refaced while in place eliminate much work and expense. The cutters are automatically self-leveling and require a minimum of effort to operate. These machines

An Absolutely New Bailer

—and Something New in Guarantees!



Hart Straight-Line Bailing Machine Mounted on Oil Field Wagon

The Hart Straight-Line Bailing Machine was designed from the ideas of practical oil and gas men who wanted a Bailing Machine with an abundance of power, a wide speed range, a large drum with splitter wheel and crank arm, including tool box, with provision for mast, bailer, piping and other equipment to be HAULED ON ONE WAGON.

The New Hart Straight-Line Bailing Machine is the answer. Mounted on 7″ channel iron frame, 13 feet long, 24 inches wide, which allows ample space on each side for hauling mast, bailer, etc.

Powered by Model A Ford 24 H. P. four-cylinder engine developing 40 brake H. P. at 2200 R. P. M. and equipped with starter, complete with Ford transmission and clutch. Eight-to-one speed reducer with helical cut steel gears and pinion mounted on Timken and New Departure bearings.

The drum is made with six-inch pipe with cast iron ends and splitter wheel is mounted on New Departure Roller Bearings and driven by positive clutch. The drum shaft is 2½ inches in diameter. All drum bearings are new departure roller bearings and all bearings, including drum, are equipped with packing glands and Alemite lubricating system requiring lubrication only four or five times a year.

Spudding arm is cast steel, with adjustable pins, having a maximum stroke of 22 inches. Double-acting brake will automatically hold in any position without man power. Tool box, of 14-gauge steel, is 38″ long, 19½″ wide, 16″ high, and houses battery for engine.

This bailer can be mounted as shown in illustration above or on steel wheel wagon. Can be transferred to motor truck or used as stationary machine. Operates on either gasoline or natural gas, and in low gear will furnish sufficient power for pulling tubing.

Absolutely Guaranteed for One Year!

This machine and every part of it (except Ford engine) is absolutely and unequivocally guaranteed against breakage of any kind for one year, any parts broken in usage being furnished absolutely free on request.

Write Today for Prices and Field Record

Hart Bros. Machine Company

Clarksburg, W. Va.

are supplied in sizes to take care of pump seats from 1½ inches in diameter to 15 inches in diameter.

Dexter gate valve reseating machines are built to do the job without having to remove the valve from the line. Perfect fits are made with these machines that are made to do the work without unnecessary adjustments. These reseating machines are made for valves ranging from 1½ to three inches up to 1½ to 30 inches.

American Iron & Machine Works Company

ROCK BIT VISE

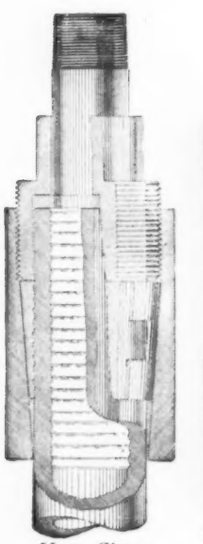
American Iron & Machine Works Company, Oklahoma City, is showing a rock bit vise which makes it possible to tear down a bit so that it may be dressed. The bit is locked in the vise and vise pin is put through lifting hole of bit so that lubricator and water cage may be broken off. After through bolts have been taken out of bit the top half of the vise is then pulled back, leaving bottom half of the bit in the lower half of vise. The interior of the bit is exposed and new side reamers may be installed. After this process has been completed the vise is closed and the bit is ready to be reassembled. The vise is made for major size bits and bushings are supplied for the smaller size bits.

STEEL RIG BRACE

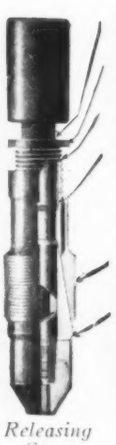
This brace can be adjusted in a few minutes with one set of chain tongs. It pushes down or pulls up on the derrick floor or engine foundation as desired. Vibration of the rig is eliminated by quick adjustment. Braces have 12 inches of adjusting space. These braces can be removed in a minimum of time when the rig or derrick is being torn down.

RELEASING SPEAR

The design of this device provides for positive release mechanism, right hand threads throughout, and parts are interchangeable. To operate, the spear is set with releasing nut well up in top of the slip. This allows the gripping teeth section of the slip to rest on the mandrel. In this position an upward pull on the spear spreads gripping segments of the slip to a positive hold on the casing. To release, lower spear slightly, and rotate right hand. This runs the releasing nut downward in the slip until it rests on the stop shoulder of the stem, raising the slip upward and away from contact with the mandrel. The spear is now loose and ready to be withdrawn.



Hose Clamp



Releasing Spear

Big Brace

HOSE CLAMP

This clamp was designed with the idea of eliminating all loose parts that might cause trouble. It has been made into a sure grip hose clamp with one adjustment that tightens all slips equally. The slips work on a tapered seat in the bowl. The more pressure put on the hose, the tighter the slips grip. Nozzle is constructed with a shoulder that pushes down on the slips, making them grip more firmly when the head is screwed down in the bowl. This shoulder also prevents the nozzle from being blown out of the hose. The clamp is interchangeable with any size hose by using correct size slips and nozzle.

Waukesha Motor Company

POWER UNITS

Waukesha Motor Company, Waukesha, Wisconsin, is displaying five new power units, including two new Diesel engines.

NEW DIESEL ENGINES

The larger Diesel is a 225-250 h.p. six-cylinder engine operated at 900 to 1100 r.p.m. The smaller Diesel is a four-cylinder engine rated at 90 to 100 h.p. and operates at 950 to 1050 r.p.m. Special features of both engines include: ease of installation, ease of starting, non-clogging injector tips, and the L-head design with controlled turbulence.

NEW LARGE SIX-CYLINDER ENGINE

The display also includes the largest six-cylinder engine built by this company rated at from 325 to 350 h.p. at 1000-1100 r.p.m. It is fitted with the Waukesha gaspower mixer, has overhead valves with replaceable sleeve cylinders, seven-bearing crankshaft, and has a built-in compressed air starting system.

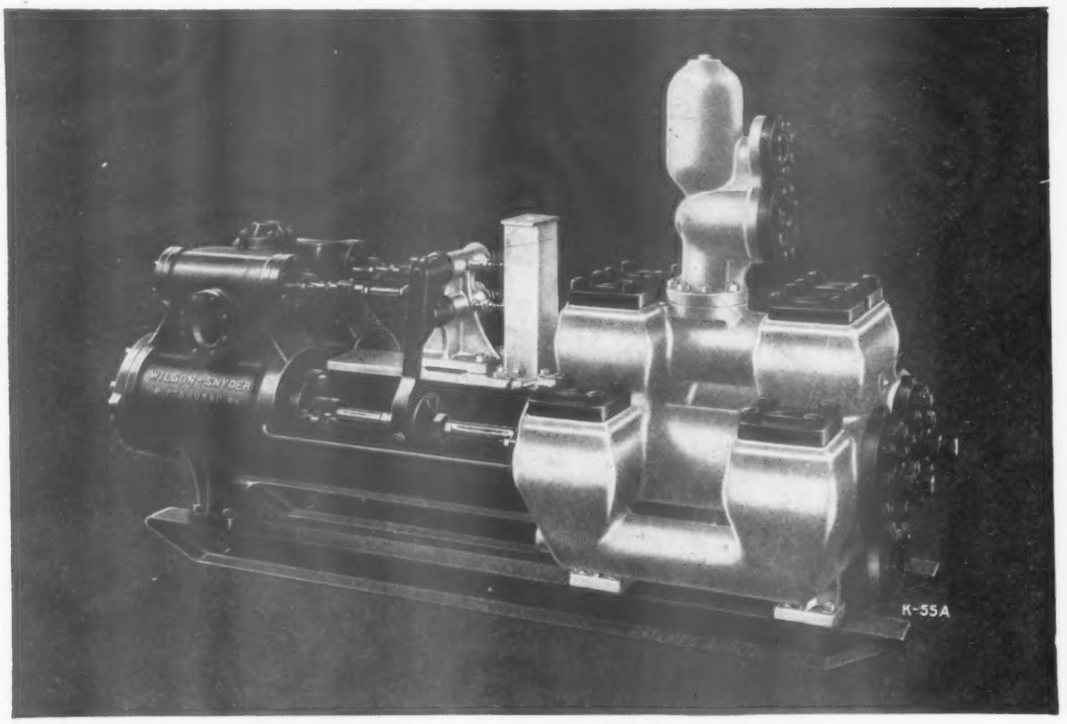
A cable tool drilling unit, the largest of four sizes, is shown with sliding gear transmission, clutch, brake and shotting reel attachment, all complete in a convenient, portable unit on structural steel skids. The popular size smaller unit is typical of 10 different sizes ranging from 25 to 120 horsepower.

John Zink Company

BURNER

John Zink Company, Tulsa, is exhibiting a special burner suited for furnaces where heat is desired without flame or where still gases and rectifying column vapors are used as a fuel. This burner is adapted to refinery tube stills and boilers with limited fire boxes. It is claimed that this burner will burn the richest of fuel gases without excess air and will generate heat without flame.

These burners are built in two distinct types, one for horizontal firing as in stills and water tube boilers, and the other for vertical firing as in oil country boilers.



They all Smile when they say:

"it's a *Wilson-Snyder*"

Because W. S. Slush Pumps establish new records of economy, performance and service every owner knows and enjoys the satisfaction that only perfect equipment can give.

Day after day, you hear some owner proudly boasting of how long he has used the same W. S. Pump; of how insignificant repairs have been; of how deep it has drilled; of how perfectly it performs, and so forth, on and on.

It's no wonder, then, that users come again and again to buy more Wilson-Snyder Slush Pumps.

STEAM

No. 18—14x7x18″
No. 16—12x6x16″

POWER

No. 6—6x16″ stroke
No. 7—7x18″ stroke

Distributed exclusively on the Gulf Coast by

Wilson SUPPLY COMPANY

Oil & Gas Well SUPPLIES

BRANCH STORES
Luling, Beaumont, Pettus, Barbers Hill, Texas
Shreveport, La.

1412 MAURY ST.
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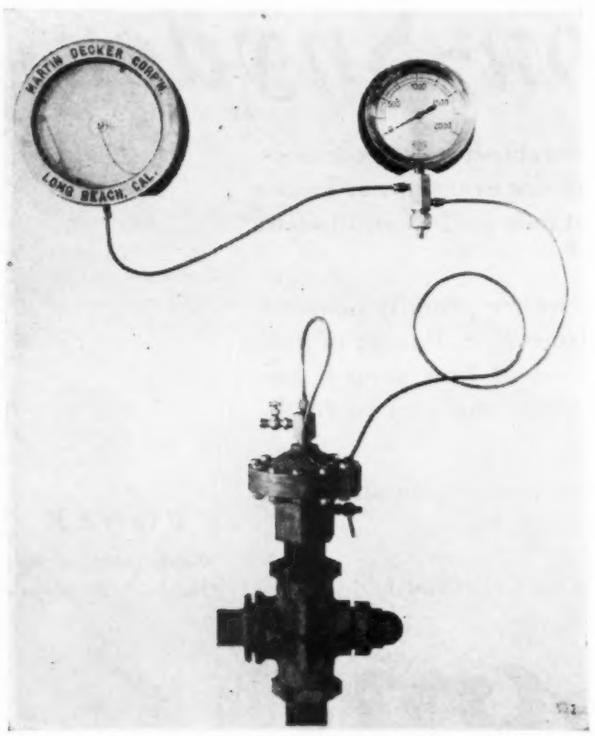
Martin-Decker Corporation

MUD PUMP GAUGE

Martin-Decker Corporation, Long Beach, California, is exhibiting the automatic recording mud scales and the improved mud pump gauge together with the pump dynamometer, the automatic recording weight indicator, the supersensitive gauge, the pull rod dynamometer and the temperature bomb.

The mud pump gauge gives the driller indications of his formations, proper cutting speeds, proper pump speeds, instant indications of twist-offs, plugged bits, and other dangerous conditions. The complete assembly consists of five main units. An oil-resistant rubber diaphragm keeps the mud from entering the gauge system and will give long service without renewal. The heavy bronze body retains the diaphragm so that it cannot be blown out. A specially designed pulsation dampener makes it possible to maintain a gauge that is sensitive regardless of pressure. This dampener is readily cleanable and adjustable in its choke effect. A 2000-pound heavy duty indicating gauge, and a 2000-pound heavy duty recorder are connected into the single choke through high pressure fittings and copper tubing. A hand pump is furnished for filling the system after installation.



RECORDING MUD SCALES

The new recording mud scales show the weight of mud which is being circulated. A dial gives the correct weight and a chart keeps a record of the weight of the mud at all hours throughout the day. The construction of the device consists of a specially designed hopper through which a constant flow of mud is maintained, suspended from the scale recorder. A small quantity of the mud in the ditch is by-passed through this hopper and the weight is shown on the scale all the time the mud is flowing through the ditch. The hopper is conical and a bottom outlet prevents clogging. The top is necked down and provided with a large diameter overflow tube so that the quantity of mud on the scale is constant. The dial is graduated in pounds per cubic foot, pounds per gallon and in specific gravity.

Baker Oil Tools, Inc.

CEMENT WHIRLER SHOE

Baker Oil Tools, Inc., Huntington Park, California, is showing the Baker cement whirler shoe and the Baker high cement whirler shoe which are adaptations and improvements of the old side hole cement float shoe. As the mud fluid or cement emerges from the slots in the side which are set at an angle, the fluid is given a whirling or spiral motion. The whirling motion is not dependent upon the operation of any mechanical device. If this shoe is set on the bottom of a hard rock formation it will withstand a load of 240 tons before the nose or guide starts to crumble.

The Baker high cement whirler shoe is a variation of the cement whirler shoe in which the slots or circulating ports are placed at a greater distance above the guide. The overall length of this shoe is 45 inches. The slots are placed 28 inches above the bottom of the guide, affording ample clearance.

Wm. Bros Boiler & Manufacturing Company

BOILERS

Wm. Bros Boiler and Manufacturing Company, Minneapolis, is showing a 163 H.P., three-drum portable ring flow water tube boiler. The company is also showing a model four-drum ring flow water tube boiler.

For Running Tools Under Pressure with Complete Control

ALL-PURPOSE and TYPE X Control Head equipment are in use at Lovell, Big Lake, Yates Pool, Graham, Chandler, Oklahoma City, etc., for "lubricating" tools under pressure - - - with complete control at all times. TYPE X is used for nominal pressures and ALL-PURPOSE equipment for high pressures.

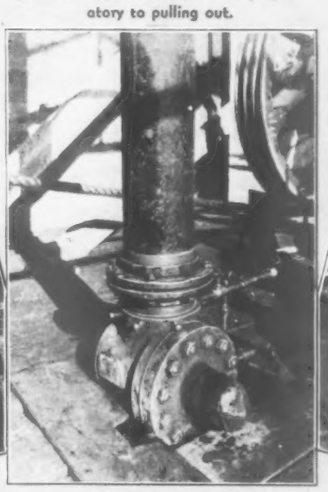
See our Exhibit at Booths 51 and 52 Oklahoma Building during the International Petroleum Exposition.

THE OIL WELL IMPROVEMENTS CO.
Tulsa, Okla.

ALL-PURPOSE Control Head and All-Purpose Oil Saver on Oklahoma City well - - - - Tools in hole and drilling

Type "X" Control Head on Oklahoma City well. Tools drilling.

Lubricating Chamber in position with pressure by-passed to chamber preparatory to pulling out.



Tools out. Control Head closed and lubricating chamber detached.

O.W.I. Co. "All-Purpose" and Type "X" CONTROL HEADS

Smith Separator Company

OIL AND GAS SEPARATOR

Smith Separator Company, Tulsa, Oklahoma, is exhibiting the oil and gas separator, fully demonstrating the true centrifugal mist traps, the final stage in separation. Each feature of the separator is so designed that it will give the operator high gravity oil and clean dry gas. In addition to this separator, the company is also showing the tubing catcher with demonstrations to represent its function under actual field conditions and the water gauge cock. This gauge cock is heavily constructed of monel metal and has a non-corrosive nozzle and the reversible gasket with 60 times the usual number of seats.

Naylor Pipe Company

SPIRALWELD PIPE

Naylor Pipe Company is displaying the spiralweld pipe, built for air, water, gas and oil service. New engineering data only recently developed is given at the exhibit on the construction features of the pipe. Samples of the pipe and motion pictures of various installations complete the display.

Guiberson Corporation

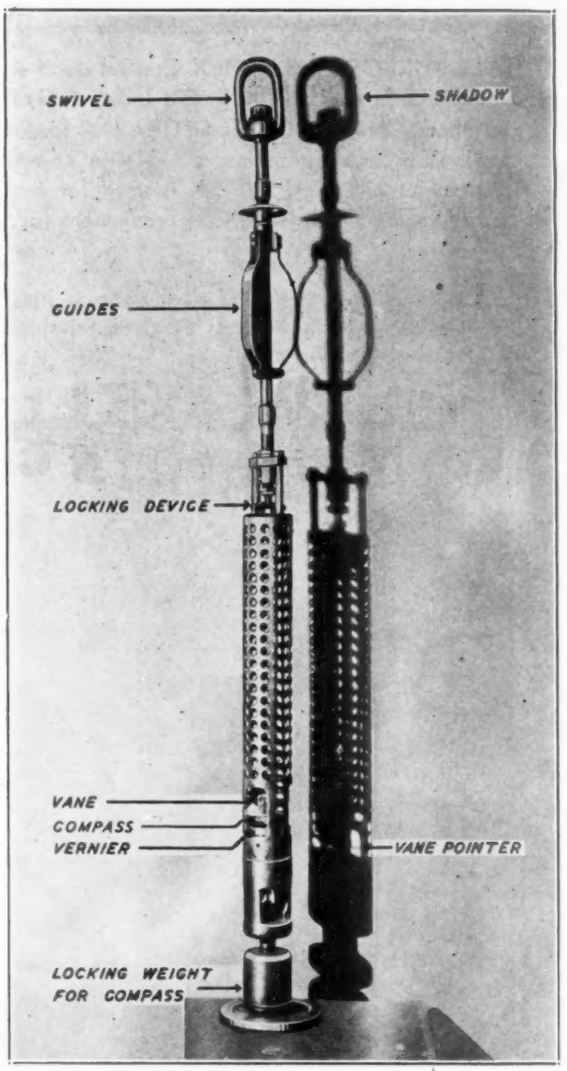
DUPLEX CATCHER

Guiberson Corporation, Dallas, Texas, is displaying the new duplex catcher which has been developed to meet the safety requirements of tubing in deep wells. It is designed with a multiple of slips, one set above the other, the slips operating in unison and actuated by a common means. When this catcher is used the shock occasioned by the fall of a string of tubing is effectually distributed over a much greater area of the casing circumference than is possible with a single headed tubing catcher and the possibility of distortion to the casing is reduced to a minimum.

WIRE LINE OIL SAVER

The rubbers in this device are brought together evenly, instead of one at a time, and with equal pressure, insuring a perfect pack-off, avoiding uneven rubber wear. A very handy and desirable feature of this saver is the ability to remove the roller caps with their enclosed rollers without disturbing any other part of the device. Bottom rubbers are made for the express purpose of sealing fluid while the super rubbers are being changed. The crank effort is compounded through worm and toggle arms to the rubbers. The movement of the crank by hand is sufficient to pack off against high pressure. This machine was developed primarily to handle long strings of tubing on deep wells where pressures are considerably greater than in shallow holes.

Lambert & Trout

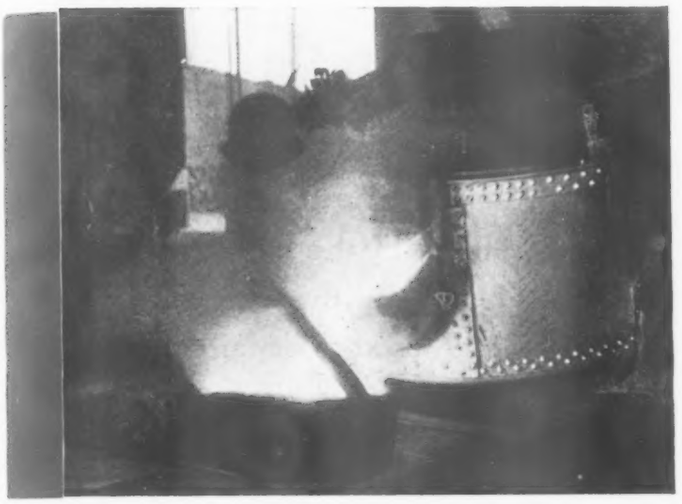


OIL FLOW INDICATOR

Lambert & Trout, Wichita Falls, Texas, is showing the oil flow indicator which is a purely mechanical device by which the direction of the underground flow of oil, gas and water can be definitely determined. It consists of a perforated barrel enclosing a self locking vane. Below the vane in a separate compartment is an automatically locking compass. The vane, like the tail of a wind mill, will turn and point to the sector from which the fluid is coming when set on the bottom opposite the pay sand; the compass will swing to magnetic north. Both lock automatically when the device is raised from bottom and then by means of a common vernier the exact direction of flow can be figured.

The device is four inches in diameter, seven feet long and weighs about 75 pounds. It is lowered into the well by means of the sand line or bailing line.

"Build With Steel Castings"

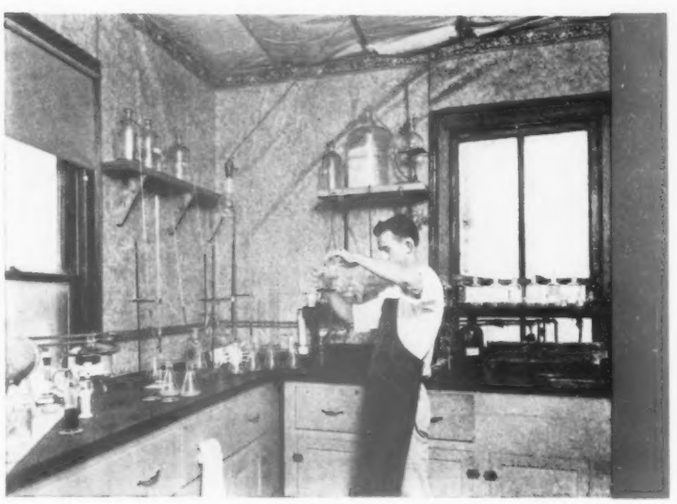


QUICK
to fill your orders

This modern plant is equipped to speedily take care of your orders and deliver them when promised. The Dual Type Swindell Furnace, 70,000 pounds capacity per day, and other efficient machinery make possible a large and steady production of quality products.

UNIFORM QUALITY IN STEEL CASTINGS

Uniform quality in the steel castings produced by the Texas Electric Steel Castings Company is made possible by the most careful control both chemical and physical. Our own chemist makes a chemical analysis on every heat before it is taken from the furnace. Test bars are made for tensile and bending tests.



Write for Full Information

TEXAS ELECTRIC STEEL CASTINGS CO.

BRINGHURST AND GILLESPIE STREETS

HOUSTON - TEXAS

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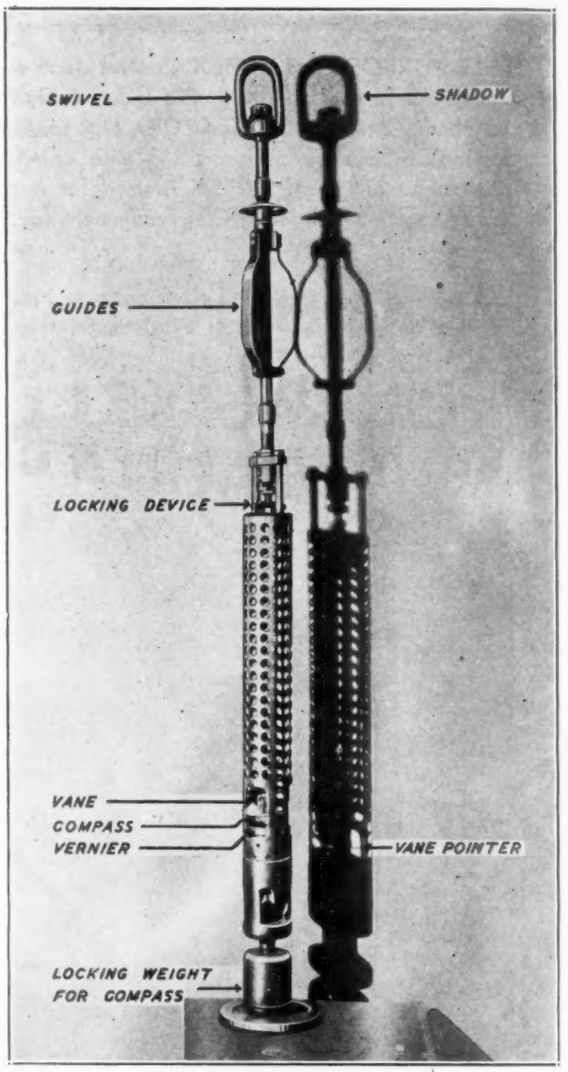

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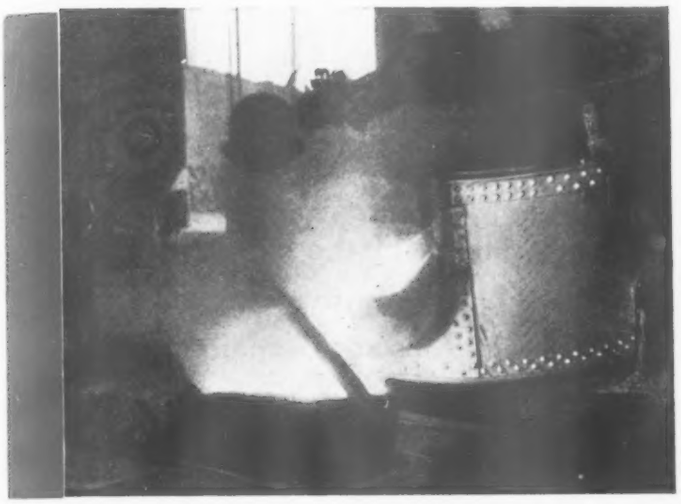

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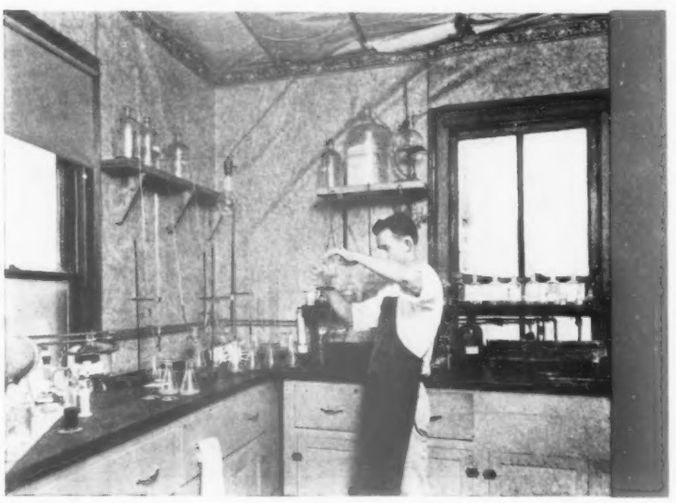


Write for Full Information

TEXAS ELECTRIC STEEL CASTINGS CO.

BRINGHURST AND GILLESPIE STREETS

HOUSTON - TEXAS

Ever since the first NATIONAL SEPARATOR was built in 1926 › › › ›

THE actual performance record of the first National, installed in the Seminole Field in 1926, was the basis of the ever-increasing use that has been enjoyed by these separators. In this very first one were embodied the principles of design still used to maintain National's high standard of operating efficiency. Today there are more than five hundred National Separators in the Oklahoma City Field—testimony enough of their tried and proven ability.

This photograph illustrates a Number One National Separator placed in the Seminole, Oklahoma Field in 1926.

Profit depends upon production efficiency—waste cannot be tolerated in a properly operating organization. That's why Nationals received whole-hearted approval when test after test substantiated claims of superior service. Popularity without performance is as rare as rain without moisture!

NATIONAL SEPARATORS NATIONAL TANKS

"IT'S A NATIONAL" has stood for *Superior Performance*

AN unqualified guarantee on the workmanship, strength, performance and efficiency of every separator we manufacture is your protection but the undeniable stamp of approval of your field engineers is absolute assurance of highest quality, performance and dependability.

If separator problems ever require equipment of different design and construction, you can depend on National Engineers to build it.

May we send you our new catalog?

This photograph illustrates two National Separators as they appear today. The method of separation remains the same — only minor exterior changes have occurred since this first National Separator was built. Performance was then, and is now, the basis of choice.

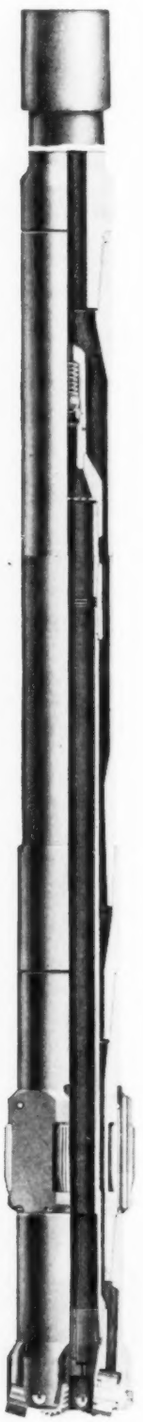
Reed Roller Bit Company

REED ROCK BITS

Reed Roller Bit Company, Houston, is showing a full line of rock bits including the type 31 which is manufactured with a box end connection, into which pin of lower end of either single or double three-point reamers will fit.

Rock Bit

Reamer



Core Barrel

Replaceable water jets are provided through a bolted-in jet plate. Jet plate is seated in head on a rubber gasket, and is bolted in place with four right hand threaded bolts. The bridge used in this bit is drop-forged and replaces side cutter pins and inside cutter washers. Side cutters are milled with a deep, widely spaced tooth, outside bevels of side cutters, back and across flank of each tooth on the cutting side have been faced with Reedite. Cross rollers are of equal width. Ordinarily there are six cross roller cutters to a set, three on each side of the bridge. On the wide side of the bridge two of the cutters are separated by a spacer to provide slush passage directly to bottom hole, while on narrow side of bridge, cutters are separated from each other only by small hub provided on each of them.

REED REAMERS

The model 26 Reed Reamer is a two piece reamer consisting of reamer body and collar. The reamer body is long and is squared to permit free passage of great quantities of slush and cuttings from around the bit. Four good long reamers are set in machined pockets so spaced on the reamer body that it gives uniform pressure at opposite points. The reamer pins in this reamer are placed and replaced by removing the reamer collar from the body and collar is manufactured with any connection desired. Thus this reamer may be used either directly behind the bit head, between two drill collars up in the string of pipe.

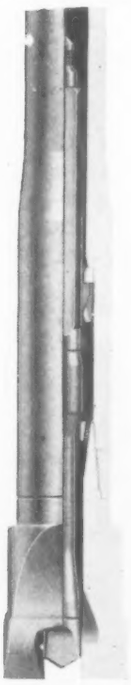
CORE BITS

The Reed-Elliott hard and soft formation core bits are built so that all inside or outside cutters, pins and washers used in this core bit head are interchangeable and replaceable. The core bit is equipped with a four point reamer operating directly above the core bit head. This bit can be equipped with any type core catcher to take formations from soft chalk to the hardest formations. The bit may be dressed on the derrick floor by the drill crew. The core forming cutters and the pilot teeth cut a pilot hole 1 to 2 inches ahead of the reaming blade. Another advantage of this cutting operation is that the core is distributed to a minimum degree at the point at which it is being cut because only a narrow ring of material is being cut at that point. The balance of the cutting is done on a higher plane after the core itself has already started up through the barrel. Operation of this bit is similar to that of the fish tail bit. Satisfactory results will ordinarily be secured if the bit is rotated rapidly and with enough weight to assure steady penetration of the formation.

Wire Line Bit

WIRE LINE BITS

The wire line bit has been designed primarily as a time saving tool, intended for the penetration of any formation in which disc, fish tail or other type of scrape bits have been used. The bit can be removed on wire line without the necessity of pulling drill pipe. Bit blades and core barrel are dropped and with a wire line, recovered, through Reed full-hole tool joints. Another feature of this bit is that it is claimed that bit blades can be changed where heaving shale or heavy gases are encountered so that rotation and circulation may be maintained. This tool is manufactured to operate on 3½ inch, 4½ inch, 5 9/16 inch, 6⅝ inch and 8⅝ inch drill pipe.



Drilling Core Bit

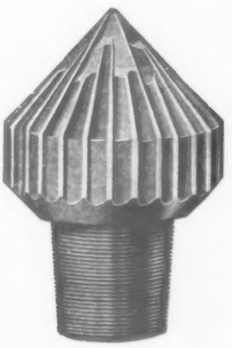
Reed Tool Joints

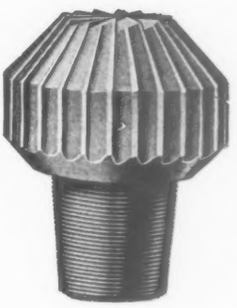
DRILLING CORE BITS

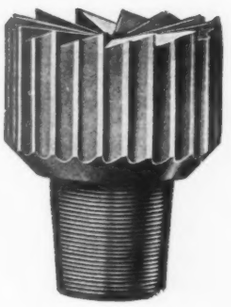
This bit is of the fish tail type forged from special alloy steel and has cutting and reaming edges faced with a hard surfacing material. This bit is so constructed that if a core of formation is desired it is necessary only to disconnect the grief stem kelly joint and drop through the drill pipe the core assembly. A shoulder is provided in the core barrel to limit the passage of the barrel through the bit. When the coring assembly of the bit is in position the core head projects through the bit and acts not only as a pilot for the bit but assures a clean uncontaminated core from unmolested formation. When any coring operation has been completed and a particular formation sample taken, a spring type overshot is lowered on an ordinary sand line through the drill pipe and tool joints to pick up the core barrel assembly. This bit is also furnished with a well surveyor which consists of a special steel carrier in which is inserted a glass bottle containing hydroflouric acid and lowered on the sand line to any point in the well from top to bottom. All of the necessary parts for the operation of this bit, other than the bits themselves and the specially designed drill collar, are packed in a case containing one overshot assembly complete, two core barrels complete, one core pusher, six hard formation and four soft formation core bit heads and 10 extra core catchers.

TOOL JOINTS

These tool joints are used with the drilling-core bits and are made from the highest grade alloy steel. The use of these joints will permit of the taking of cores at least one-half inch larger in diameter than if the ordinary tool is used.







MILLING TOOLS

Reed milling tools are made of specially-selected steel and are carefully treated to insure necessary hardness and cutting strength. These tools can be rebuilt and sharpened after having been used for a long time.

Mine Safety Appliance Company

Mine Safety Appliances Company, Pittsburgh, is showing a complete line of safety equipment for the petroleum industry. One of the features of the exhibit is an extensive array of respiratory and protective equipment, including the permissible combination hose mask and tank gauger's mask, which have recently been approved by the United States Bureau of Mines. In addition to many other forms of masks, this company is showing approved oxygen breathing apparatus, electric cap lamps, gas detectors and recorders, miscellaneous protective and safety clothing and various first aid materials.

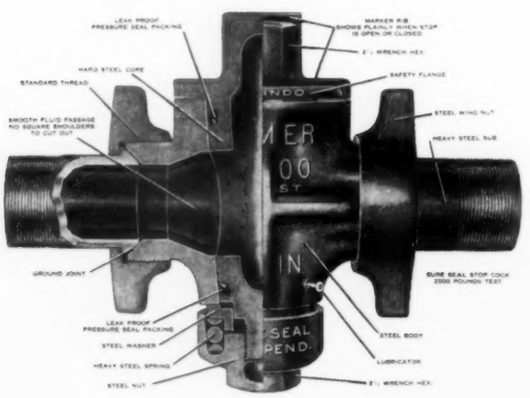
Oakite Products, Inc.

Oakite Products, Inc., New York City, is featuring improved methods for cleaning materials for salvaging out-of-service equipment. For the demonstrations the company is collecting daily from the various local companies, used equipment, and is cleaning it in a regular size supply yard tank. One of the interesting features of the method developments is a small drum type cleaning tank, for small parts cleaning, which can be reproduced by any producing company with available material for a minimum of expense. Interesting literature describing daily cleaning operations in the petroleum industry is distributed at the booth.

Iverson Tool Company

ALL STEEL ROTARY HOSE

Iverson Tool Company, Tulsa, is showing the new Hamer seven-joint all steel rotary hose which is made with seven flexible ball bearing joints, each joint having a channel larger than the 3½ inches drill pipe which connects to joints. By use of seven joints the hose can be placed in any position in the derrick without binding or causing stress on the hose or drilling equipment. Due to the unusual construction of the joints, it is claimed that the cutting action is reduced to a minimum so that the hose will last for a long time.



LUBRICATED STOP COCKS

The Hamer lubricated stop cock is constructed to operate the same as any ordinary stop cock, but is so constructed that Alemite tips or Alemite fittings are provided to lubricate the plugs. It has the additional feature of using a tension spring at the bottom to keep the same pressure on the plug at all times. Provision is also made whereby this stop cock can be loosened under any pressure with speed and safety, without loosening any nuts. They are made to withstand pressure of 2500 pounds.

LINER SLEEVES

These rubber sleeves are made to go on the outside of mud pump liners to pack off the liner in the pump. They are made in two pieces of graphited rubber, one inside the other and after the sleeve has been in the pump a long time, it will allow the liner to be pulled without any difficulty, because of being constructed in two pieces. The graphited surfaces do not stick together and allow one of the liner rubbers to come out with the liner and the other one remain in the pump.

VALVE SEATS

The outside of the Hamer valve seat is made with thin hard rubber ring, which when placed in the pump takes up any irregularity due to seats having been forced into the pump and any other irregularity, and makes a perfect pack-off in the pump. When the valves are to be removed, it can be done easily as the graphited rubber does not stick and hold fast to the pump. These seats can be used with the Hamer insert valve or with McClatchie valve.

WIRE LINE CLAMP

This clamp embodies several entirely new features, one of which is the manner in which the gripping pressure is applied to the line. This is obtained by means of the toggle joint principle, instead of the modified hinge principle. A toothed projection on the back of each movable jaw virtually gears the two jaws together, in such a manner that when either jaw is opened or closed the other jaw moves in the corresponding direction. This feature prevents slipping one jaw ahead of the other and fouling the line. This principle of leverage increases the gripping efficiency of the line. The accurate control of the slip action on the line together with the 22-inch long tapered slips makes it possible to "slip" the line any desired distance at all drilling depths without the line jumping through the slips or striking fire. This company furnishes 14-inch and 22-inch steel heat-treated slips grooved on both edges which makes them reversible. They are tapered to compensate for wear.

E. B. Wiggins Oil Tool Company

CASING PROTECTOR

E. B. Wiggins Oil Tool Company has on display the new Wiggins casing protector which is made by vulcanizing tire rubber onto fabric and is held on drill pipe by means of several special alloy wires. The protector is split to allow its being slipped around the drill pipe. Owing to vertical grooves on the outside, ample room is left for circulation and there is no swabbing action. By cutting the wires the protectors can be removed and used again.

WIGGINS DIGGING COMBINE

The Wiggins digging combine is a new combination of the straight hole reamer and roller bearing yoke type disc bit. The disc bit has over five times as much cutting surface as a fishtail, all the cutting surface is self-sharpening, and it is suitable for penetrating practically all formations.

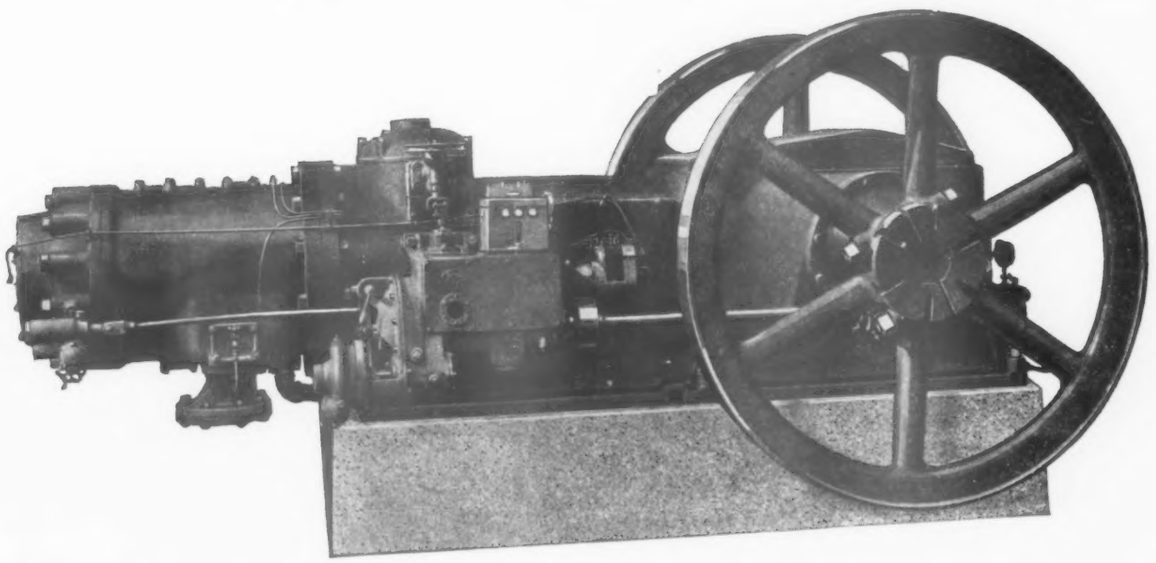
The reamer has 26 reaming edges. Teeth are so placed that they contact the circumference of the hole and guarantee the hole being full gauge and round.

The disc bit is so constructed that by replacing worn yoke assemblies with new ones practically a new bit is made out of every used tool. Likewise changing cutters on the reamer makes it as good as new. These cutters are easily built up and are practically the only parts of the tool which require servicing.

A true circulation expander made in one piece from rubber and fabric, collapsed casing expander, connector press,

Reid

14½" x 18" Type C Two Cycle Gas Engine



Backed by 36 Years of Engineering Experience

THE 14½" x 18" Type C engine is new in design, but the fundamental principles of its construction have been thoroughly tested by more than four hundred of the smaller size Type C engines which are running today in the oil fields of Arkansas, Kansas, Louisiana, Oklahoma, and Texas. And back of the Type C engines is all the wealth of experience acquired by the Joseph Reid Gas Engine Company through thirty-six years of engineering gas power. Working from this field experience, Reid engineers have incorporated in the design of the smaller Type C's such changes and improvements as seemed expedient to make the new 14½" x 18" size an expert and exceedingly powerful engine for oil field service.

For further details ask for Bulletin Number 52

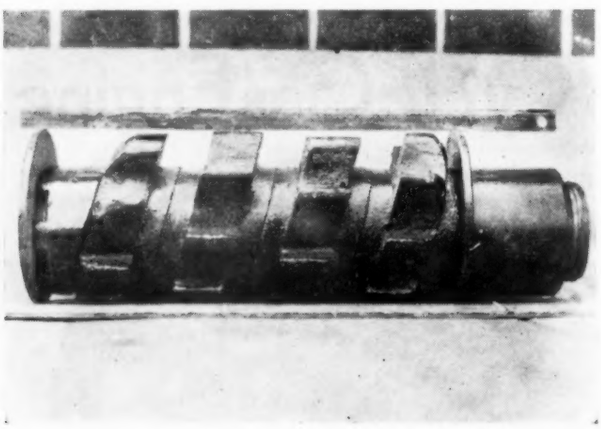
JOSEPH REID GAS ENGINE COMPANY
OIL CITY, PENNSYLVANIA, U. S. A.

BRANCHES—Marietta, Newark, and Logan, Ohio; Charleston, W. Va.; S. R. Shoup, 724 Board of Trade Building, Los Angeles, California.

EXPORT SALES REPRESENTATIVE—Oil Field Equipment Co., Inc., 30 Church Street, New York City.

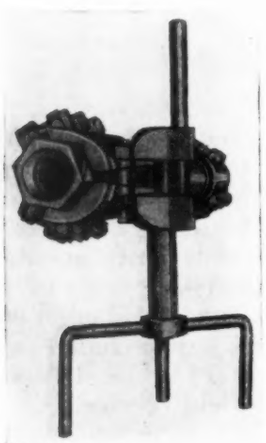
DISTRIBUTORS—Frick-Reid Supply Corp., Pittsburgh, Pa., and Tulsa, Okla., Distributors for Bradford and Pittsburgh, Pa., Muskegon and Mt. Pleasant, Mich., Kentucky, Oklahoma, Kansas, Texas, Arkansas, Louisiana, and Wyoming; R. B. Moore, Bolivar, N. Y.; distributed in California by The Republic Supply Co. of California, Los Angeles, Calif.

hose clamp gathering device and the improved Wiggins roller bearing disc bit yoke type construction are other novel pieces of new equipment being shown by this company.



WIGGINS SERVICING FIXTURE

The servicing fixture is a new device for building up and grinding to size reamer and underreamer cutters. The nut and plate are removed and the cutters installed. The plate is then slid on with the key in its center opening sliding back in a groove to locate it. The nut is then screwed on to hold the cutters exactly as the nut holds them on the reamer or underreamer. The straight edge is held against the edges of the plates at both ends and is kept parallel to the axis of the mandrel. The cutter teeth are built up to slightly beyond and are ground down to exactly the height of the straight edge. Replaceable plates adapt the fixture to all sizes of reaming and underreaming cutters.



GATHERING DEVICE

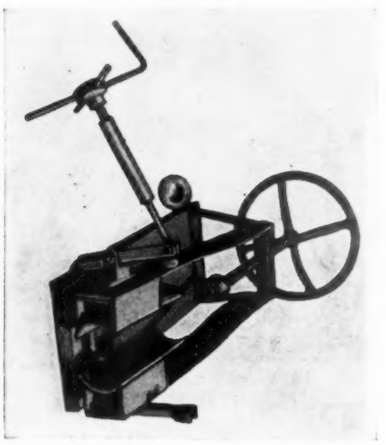
This tool is intended primarily for shops installing a considerable number of sets of rotary hose couplings. It consists of two hooked steel blocks which travel on two round guide bars. When the hooks are inserted in the center holes of rotary hose clamps and the hand wrench is rotated, the clamps are easily drawn together so the bolts can be started by hand.

DISC BIT

All moving parts of the new Wiggins disc bit are roller bearing, all wearing parts are mounted in one interchangeable assembly. The core which normally forms between discs is removed by a core breaking bit protruding from the yoke. Another feature of this bit is that there are no threaded parts to assemble and circulation is directed to the cutting edges of each disc. It is claimed that this bit has five times the cutting edge of a fishtail bit, the discs are self sharpening and the edges surfaced so as to cut practically all formations.

CIRCULATION PROTECTOR

The Wiggins protector is built up of the finest rubber laid over a fabric base and cured in a mold under tremendous pressure making it entirely impervious to the action of oil and water. The protector is divided at one side so it will slip around the drill pipe and is held in place by several specially annealed high carbon wires which are placed in grooves around the protector, and are tightly drawn and locked by a simple ingenious method. Six vertical grooves in the outside periphery allow freedom of circulation and prevent swabbing action. These protectors can be removed from pipe and reinstalled on other pipe without any trouble.



CASING EXPANDER

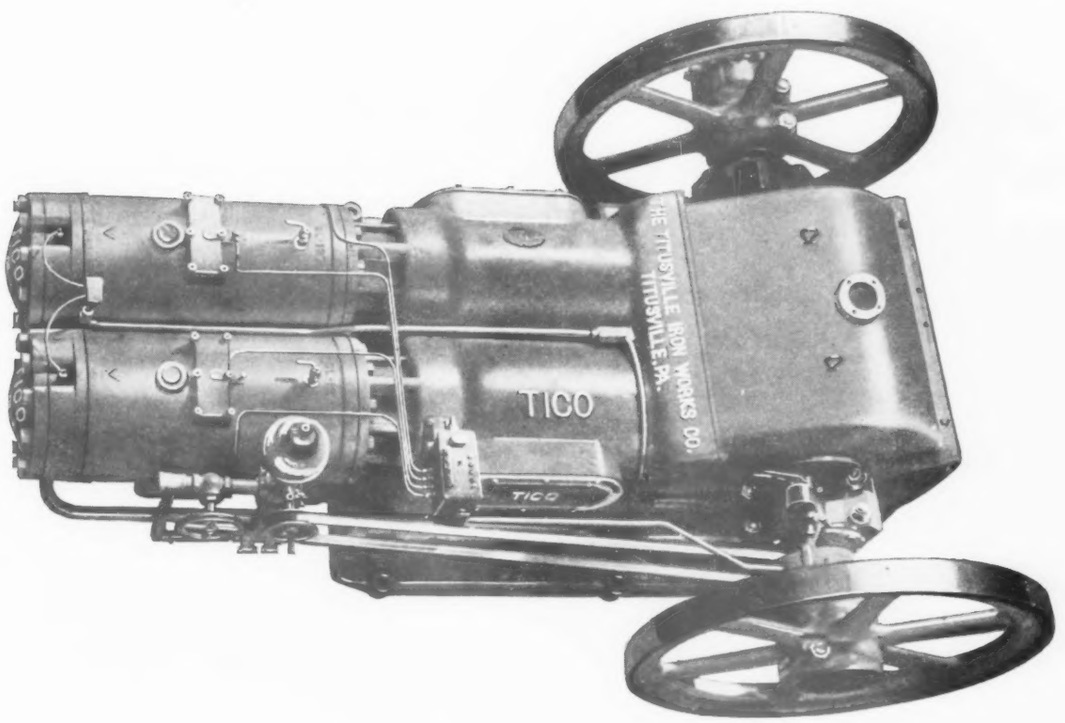
The expander is run in on the drill pipe until the tapered nose of the expander reaches the collapsed part of the pipe. A light load is put on the expander and the drill pipe is rotated. Rotation of the drill pipe rotates the head of the expander and an inside cam shaft extends the four segments comprising the body, simultaneously. The segments extend evenly a short distance and then return to their original starting position. With each expansion the pipe is moved back a short distance. When the tool contracts, it moves downward into a new position. The next time it expands, it repeats the operation until finally the toll has passed through the tight place and has returned the pipe to its original position.

CONNECTOR PRESS

This is a light weight screw press for installing rotary hose couplings. It is operated by one man and is light enough to handle on a rig or on a tool rack. It installs couplings at the rate of one a minute without cutting or injuring the hose or coupling. This press fits all sizes of hose and practically all makes of couplings. Weight of the device is 95 pounds.

15 refinements—

on this New TICO Twin Cylinder . . . . 90 to 150 H. P. Gas Engine



"BIRDSEYE view" of the new TICO—rugged, massive and able to stand the gaff indefinitely. Timken Roller bearings on crank shaft—and 14 other points of efficiency.

All of our drilling machinery is now built to withstand 350 pounds steam pressure.

TITUSVILLE OIL COUNTRY MACHINERY

Twin Cylinder Steam Engines
Single Cylinder Steam Engines
TICO 2-cycle Gas Engines
TICO 4-cycle Gas Engines
Rotary Drilling Equipment
Band Wheels—Geared Powers
A. S. M. E. Code Portable Boilers (Locomotive—Return Tubular)
Heating and Power Boilers
Air Compressors—Acid Blowers
Tanks and Steel Plate Work
Flapper Valve Pumps
Rotary Slush Pumps
Pressure and Vacuum Valves

BUILT WITH RESERVE RUGGEDNESS

THE TITUSVILLE IRON WORKS COMPANY
Division of Struthers Wells-Titusville Corporation
TITUSVILLE, PA.

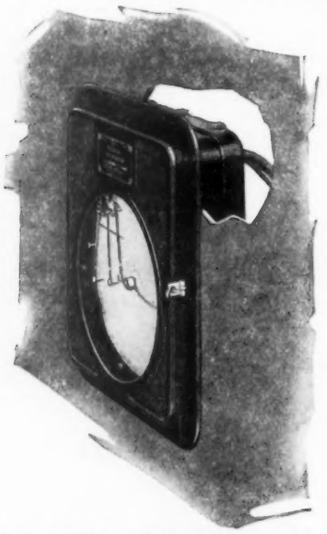
Mid-Continent Office: 503 Exchange National Bank Bldg., Tulsa, Okla.
For Kansas, Oklahoma, New Mexico and Northwestern Texas: International Supply Co., Tulsa, Okla.
For California: California Machinery & Supply Co., 2449 Hunter St., Los Angeles, Calif.
For Louisiana, Arkansas and Southeastern Texas: Mid-Continent Supply Co., Ft. Worth, Texas.
For Export: American Steel Export Co., Inc., 295 Madison Ave., New York, N.Y.

TIW-73

TITUSVILLE OIL FIELD EQUIPMENT

GAS ENGINES · PUMPS · BOILERS · DRILLING RIGS · STEAM ENGINES

Taylor Instrument Company



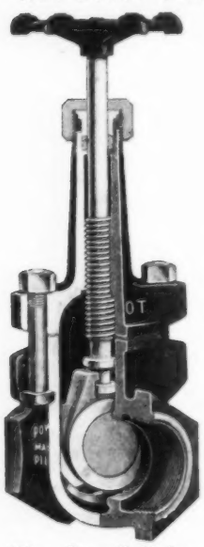
THERMOMETERS AND PRESSURE GAUGES

Taylor Instrument Companies, Rochester, N. Y., has on exhibit flush-mounted recording thermometers and pressure gauges. These instruments may be used with one, two or three pens but are most efficient with the larger number. The three records in different colored inks make comparison of records a simple matter. All connections are made on the back of the instrument but the tube system can be removed from the front. As in all Tycos instruments the door is mounted on spring hinges, insuring moisture-and-dust-proof joints. Other features are the micrometer pen adjustment, pen lifter and chart ejector. The pens are of the suspended type with non-corrosive stainless-steel arms. The clock is specially designed with three-point mounting and has a starting device, for convenience. Other instruments being shown include industrial thermometers, regulators for temperature and pressure, vacuum gauges, aneroid and mercurial barometers, pyrometers and valves.

Wm. Powell Company

GATE VALVES

Wm. Powell Company, Cincinnati, is showing a complete line of bronze, iron, and steel globe, angle, check, gate and safety valves along with numerous types of oilers, lubricators, grease cups, gauges, and other oil field equipment.



Wm. Powell Valve

One of the feature displays of the company is the new "Master Pilot" gate valve which is built in sizes from ¼-inch to two inches for working pressures up to 150 pounds at 450 degrees F. total temperature, and 225 pounds water, air, oil or gas working pressures at 100 degrees F. Sizes 2½ inches and three inches are designed for 125 pounds working steam pressure at 450 degrees F. or 175 pounds water, air, oil or gas working pressures at 100 degrees F.

"Master Pilot" valves are made with high grade cast iron bodies and bonnets; the stems, packing nuts and discs are made from high grade steam bronze. For handling liquids and gasses destructive to copper alloys the packing nuts and discs can be supplied of iron and the stem of steel. Valve bodies are made with heavy wall thickness and full way openings.

Two heavy lugs are cast on the side of the bodies and are so arranged to slip in and firmly hold head of proper size standard bolts for binding bodies and bonnets together. The bonnets are supplied with full acme threads accurately machined. A large packing chamber is arranged in top of the bonnet allowing plenty of packing with gland follower. Special gaskets are supplied for oil, gas, gasoline, air, steam or water service.

The Lunkenheimer Company

GATE VALVES

The Lunkenheimer Company has on display the various types of the "King-Clip" gate valve. This valve is used in the petroleum industry in the handling of oil, gas, gasoline, air, water and steam.

It is made in three types—inside screw, outside screw, and yoke in sizes from ¼ inch to four inches. Screw end patterns, sizes ¼ inch to two inches are rated at 150 pounds W. S. P.—225 pounds gas-liquid pressure; screw end 2½ inches to four inches, flange end 1½ inches to four inches are rated at 125 pounds. W. S. P.—175 pounds G. L. P. All types are made in both the iron body bronze mounted and all iron patterns.

Lunkenheimer "King-Clip" Valve

Internal parts of the valve including the bonnet bushing, are made of bronze; this material offers more resistance to corrosion and wear on all exposed and working parts. The iron casing adds rigidity to the valve. Another feature of interest to the petroleum industry is the deep thread in the body which will accommodate either A. P. I. line pipe or merchant pipe without alteration.

The company is also showing a late addition to its line of products, the "Causul" metal "King-Clip". It is made from the outside screw and yoke patterns and while developed primarily for use in handling caustic and sulphuric acid it has also proved useful in handling other corrosive materials. It is being used also for sludge acid in refineries.

Brown Investment Company

BROWN AUTOMATIC CONTROLS

The Brown Instrument Company, Philadelphia, is displaying the Brown Automatic Controls for governing temperatures, pressures and flows in stills, towers and pump speeds . A new development in this line is the automatic control indicator. Other instruments being shown by this company are: Flow meters, for measuring an dcontrolling gasoline, oil gas, water and steam; liquid level gauges for controlling the level of petroleum products in tanks; pyrometers; resistance thermometers; and pressure and vacuum gauges measuring pressures and vacuums in stills.

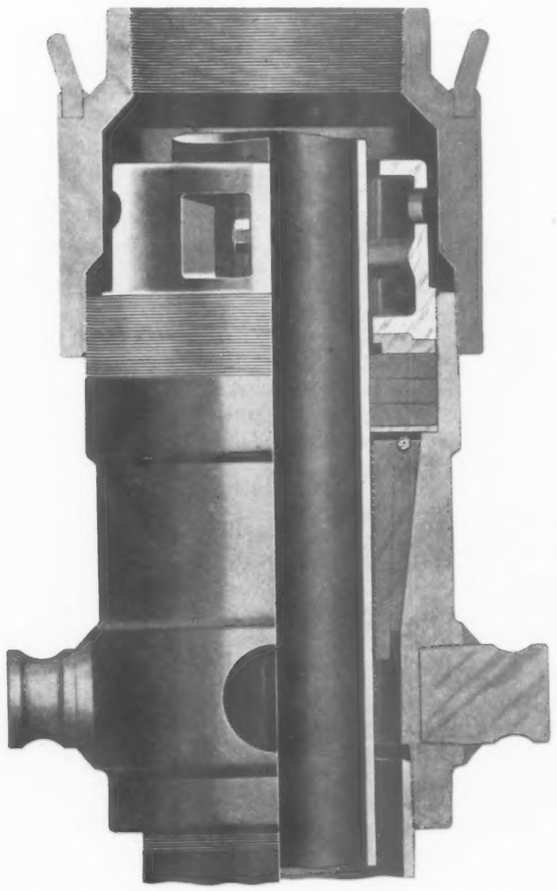
SEE OUR DESCRIPTIONS IN THE COMPOSITE CATALOG

Developed to Satisfy Definite Needs!

Hercules Tools

HERCULES TOOL TULSA

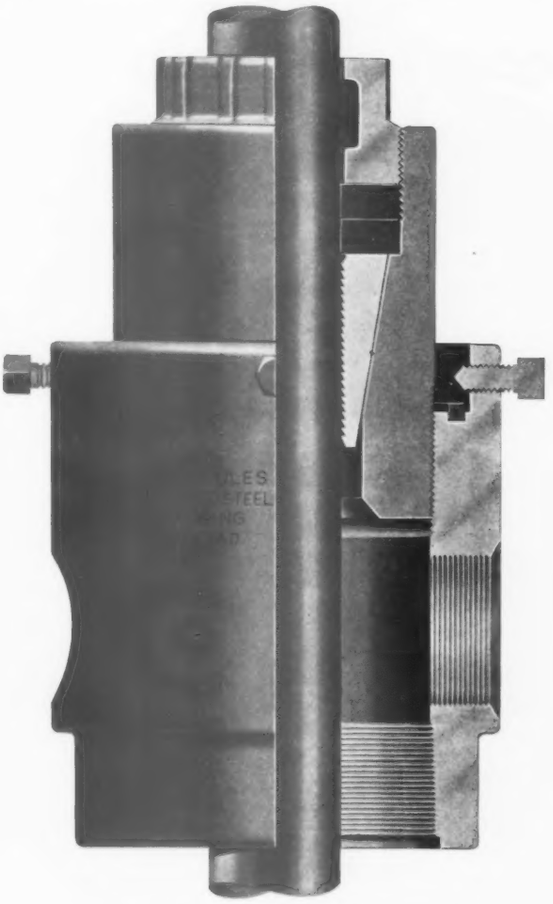
have won high regard and their demand increases as they prove their worth through efficient operation



Hercules High Pressure Forged Steel Casing Head

(Pat. Pend.)—Cross-Section view

Designed and developed to form an absolute seal between two strings of casing and to support the inner string on slips as a means of safety. Tested to 3,000 lbs. actual pressure and to carry a hanging weight of over 400,000 lbs. We also manufacture a Forged Steel Swedge Nipple to screw on top of the casing head, reducing down to the size of casing on which the casing head is made up. Each Casing Head is equipped with slips, rubber and steel packing rings and split packing nut.



Hercules Forged Steel Tubing Heads

(Pat. Pend.)—Cross-Section view

Developed for high pressure wells, or for deep wells where simplicity and absolute safety is uppermost in the mind of the operator. Being made of solid forgings all chances of leaks from sand and gas holes, so often encountered in Cast Steel, are eliminated. This gives the operator a tool of unlimited strength and unusually high quality.

In case it is desired to run the tools into the well, this may be accomplished simply by removing the top section, by unscrewing it, there is left on the well a regular forged steel casing head with top for oil saver.

Write for Descriptive Material on Other Hercules Tools.

HERCULES TOOL COMPANY

OIL WELL SPECIALTIES

Tulsa Oklahoma

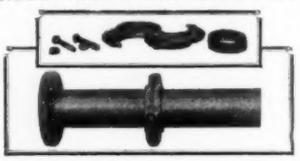
Oil Conservation Engineering Company

VENT VALVES

This valve is a dead weight type designed for positive operation under the most severe conditions. The valve opens at a pressure or vacuum of one-half ounce per square inch. However these valves can be furnished to open at any pressure from one-half ounce to one pound per square inch or at a pressure of one-quarter ounce per square inch. For these low pressures a flat disc valve and guide is used instead of the standard stem guide valve. Body castings are semi-steel while the valve, valve stems, valve seats and guides are of a special aluminum developed to meet corrosive conditions in oil tanks. Inspection covers, that swing back exposing the valves, are released by a few turns of the single hand wheel.

PIPE COUPLINGS

In the grooved pipe the groove is not as deep rooted as the standard threads—less metal being removed in the operation. The pipe is easily grooved on the job. These pipes may be removed and laid in a new location without reconditioning. Cleaning of the pipe and coils is both possible and practical. These couplings are especially adaptable for making coils such as condensers, coolers, and heat exchangers. Standard tees, elbows and return bends are available. For connecting grooved pipe to other piping it is only necessary to use an adapter in the form of a nipple threaded on one end and grooved on the other.



SAFETY TANK WINCH

With this winch a load of 2500 pounds can be handled with a pull of 70 pounds on the crank. It is for use with swing lines up to and including 10 inches in diameter on tanks as high as 40 feet. It has a drum six inches in diameter by 10 inches long with a capacity for ⅜-inch cable of 40 feet in one warp; 82 feet in two warps. Permanent lubrication is provided by graphite bronze bushings throughout and brass thrust washers at the ends of the drum and worm.

GAUGE AND THIEF HATCH

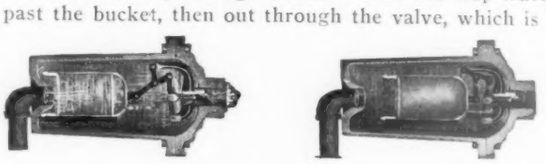
The use of this thief hatch is claimed to be air-tight, water-tight and spark-proof, thus eliminating heavy losses through evaporation, firing of emitted vapors and admission of water. This hatch uses no liquid seals or gaskets. It consists of a body designed to bolt or rivet to the roof of the tank or screw onto a nipple. It is equipped with

a cover which is self closing and is operated by a foot lever. In this cover there is a seating ring of white metal which results in a gas-tight joint which is also spark-proof. It is placed in the cover so that it is protected from injury when lowering gauges or thiefs into the tank.

Armstrong Machine Works

STEAM TRAP

Armstrong Machine Works, Three Rivers, Michigan, is exhibiting the Armstrong steam trap which operates by the rise and fall of an inverted submerged bucket. The valve is opened and closed by the motion of this bucket. The open end of the bucket is directly over the inlet in the bottom of the trap, the outlet of the trap being at the top. Water flowing through the inlet onto the trap travels up past the bucket, then out through the valve, which is in



the top of the trap. Should steam enter it, it will collect in the bucket, causing it to float and quickly close the valve. This steam will condense and steam or water will enter to take its place. If steam enters, the bucket will continue to float, but if water enters, the bucket loses its buoyancy and sinks, opening the valve and the discharge takes place. Air entering the trap is caught in the bucket and passes out through the vent in the top of the bucket and collects in the top of the trap, passing out during the discharge. Any steam passing through the vent is condensed by the surrounding cool water. These traps are fitted with different valves for different pressures.

Ralph N. Brodie Company

DISPLACEMENT METERS

The Ralph N. Brodie Company, Oakland, California, has on display a complete line of displacement meters for use on ship loading terminals, bulk plants, truck tanks, and refinery units. In addition to these meters they are featuring the universal displacement meter for six-inch lines which has an operating range of 200 to 1000 gallons per minute. This meter is specially designed for use on pipe lines, unloading barges and other installations requiring large capacity.

FIRST CHOICE

in the Race to Reach Pay Sand

Appleman Gumbo Bits

In the ranks of experienced and field-seasoned drillers the Appleman Bit enjoys the reputation of being one of the fastest drilling and most economical bits to be found anywhere. When there's a race to reach pay sand ahead of a competing driller the Appleman Bit, because of its unusual speed, proves a weighty factor in the outcome. Take advantage of the speed features this bit offers you and mounting profits will back the wisdom in your choice.

SPEED FEATURES

Self-Sharpening Blades are attained by hard facing in the concave shaped blades permitting wear on the back to retain the cutting edges.

Straight Water Courses lead directly to the cutting edge, insuring rapid mixing and breaking up of cuttings to be quickly washed away in solution.

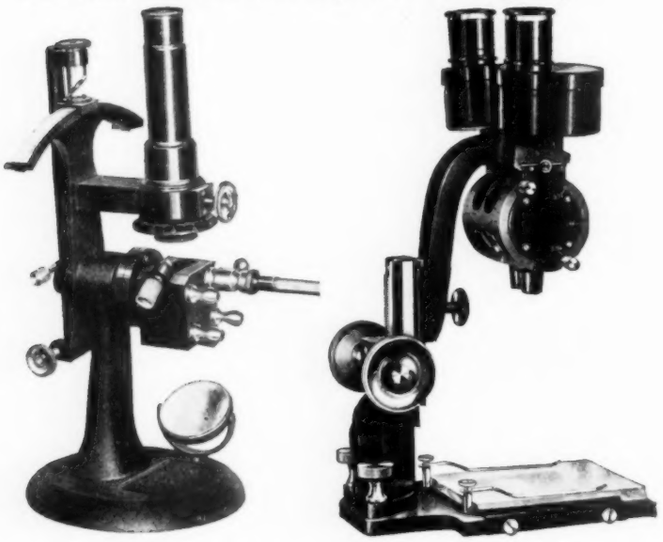
Sidewall Cutting is attained by the self-sharpening blades and their special design. This gives a clean and well-prepared sidewall "bored to size."

Write for complete information

B.K. APPLEMAN

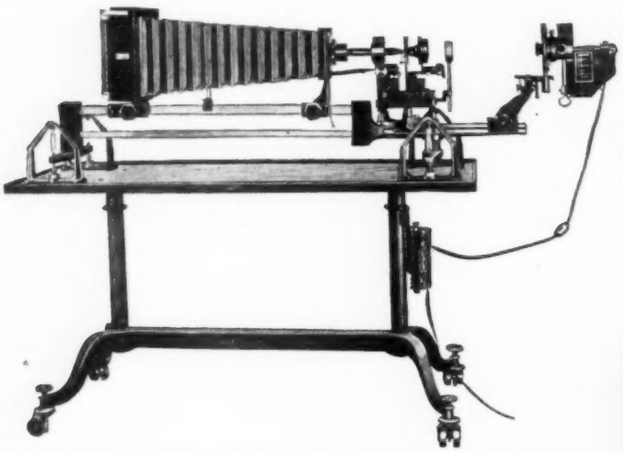
BEAUMONT, TEXAS

Bausch and Lomb Optical Company



PETROGRAPHIC MICROSCOPE

Bausch & Lomb Company, Rochester, N. Y., is exhibiting a line of optical and microscopic instruments for the oil industry. The petrographical microscope has a revolving stage which has a special optical system including a polarizing and analyzing equipment. These special features are essential for the examination of minerals which show definite characteristics under polarized light. One of the more recent improvements in this instrument is found in the tube analyzers which have a system that corrects focus difference as well as astigmatism.



PHOTOMICROGRAPHIC EQUIPMENT

A number of instruments are made by this company for recording microscopic observations. They range from the simple, inexpensive camera that may be had for routine recording purposes to the elaborate microscope and recording equipment necessary for the research laboratory. This instrument is for the most advanced photomicrographic work with transparent specimens.

BINOCULAR MICROSCOPE

The binocular microscope is used for work of seven to 87 magnifications where wide field and stereoscopic vision is desirable. It has a cylindrical revolving nosepiece which instantly brings the different objectives into use. It can be placed directly upon large specimens such as castings for the examination of cracks, flaws or surface structure.

ELECTRIC CENTRIFUGE

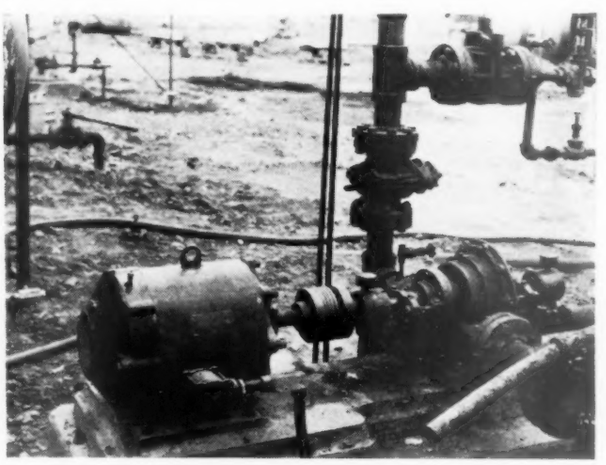
The centrifuge offers a quick method of precipitating sediments. The working parts of the instrument are all enclosed, the spindle shaft running in well fitting bearings. A higher rate of speed is permissible with smooth acceleration and gradual decrease without jarring the sediment.

The Louis Allis Company

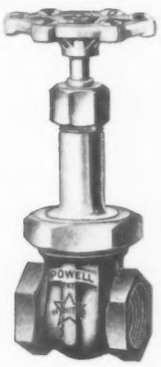
ELECTRIC MOTORS

The Louis Allis Company, Milwaukee, is showing several types and sizes of "explosion-proof" motors and frequency converters. A 5 H. P. 1800 R. P. M. motor with section cut away to illustrate some of the safety features of the motor is being shown.

A 75 H. P. 1800 R. P. M. "explosion-proof" motor is also being displayed to emphasize the fact that this type of motor is built in the larger sizes. This type of motor is being furnished in sizes up to 100 H. P. 1800 R. P. M. The "explosion-proof" motor in addition to being totally enclosed has the three special features of being designed and built to prevent possible ignition within the motor from extending to surrounding vapors, the enclosed motor casing is strong enough to withstand any explosive pressures to which it is likely to be subjected, and it has sufficient "static" radiating surface so that even in case of a burn-out in the absence of overload protection the surrounding



Louis Allis Motor



A POWELL VALVE
for Every Purpose

Since 1846, when Powell Valves were first introduced to the engineering public, they have merited universal acceptance because of the universal application to all classes of service. Their vast range of design and materials command universal attention. Their application guarantees trouble-free and economical valve performance.

Because of their efficient, dependable performance on water, steam, air, gas or oil lines—and lines carrying volatile and hazardous liquids and gases—POWELL VALVES have been the accepted standard for various types of installations.

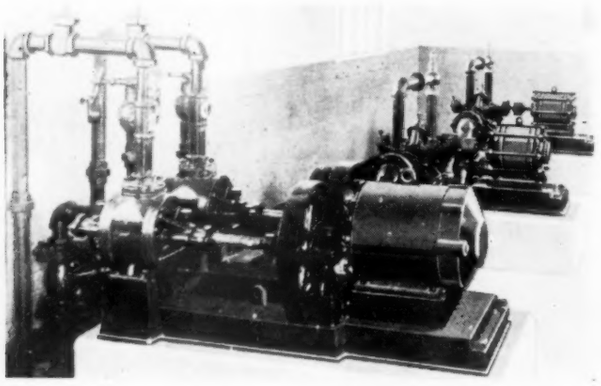
There is a Powell Valve for practically every service demand—for low or high pressures, for low or high superheat temperatures.

Republic Supply Company

OIL AND GAS WELL SUPPLIES
Cable and Rotary Tools

GENERAL OFFICES: HOUSTON, TEXAS

vapors will not ignite spontaneously. These motors can be used in hazardous locations without the use of a fire wall.

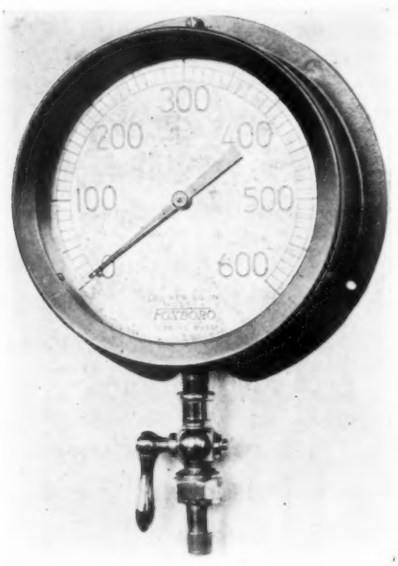


Louis Allis Motor

Foxboro Company

PRESSURE GAUGES, METERS, CONTROLLERS

The Foxboro Company, Foxboro, Massachusetts, is exhibiting the new refinery pressure gauge. This gauge features a steel bourdon spring, and hardened steel working parts. The



Foxboro Gauge

use of steel alloys allows it to stand up under hard service and not give way in case of fire. Besides this gauge, the exhibit is featuring new heavy forged steel orifice meters for safely measuring flows of liquids under high pressures up to 2500 pounds or 5000 pounds per square inch. Other instruments being shown include a flow ratio controller for proper proportionment of flows and a differential limit controller for accurately metering the widely varying flows found in the gas industry.

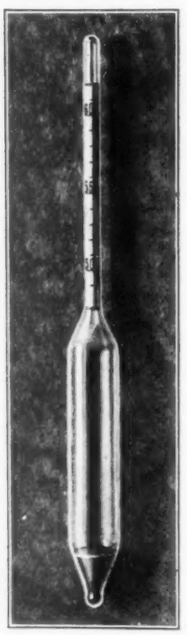
Victor Welding Equipment Company

Victor Welding Equipment Company is displaying a complete line of Victor pipe line and refinery welding equipment, together with the latest Victor senior and junior safety regulators. Cutting, welding, brazing equipment and metal cutting with oxygen and liquid petroleum gases is being demonstrated.

C. J. Tagliabue Manufacturing Company

THERMOSTATIC VISCOSIMETER

C. J. Tagliabue Manufacturing Company, Brooklyn, is featuring the new TAG Saybolt thermostatic viscosimeter along with the new hydrometer. Other exhibits include thermometer, hydrometer, standard oil testing instruments for laboratory, recording and indicating thermometers and a complete line of temperature, pressure and liquid level controllers for the plant.



TAG Instruments

Some of the features of the new viscosimeter are: the temperature of the bath is held constant within plus or minue 1/10 of a degree at any test point between room temperature and 220°F. This instrument allows easy setting to the correct temperature by means so a pilot lamp can indicate whether the contacts are open or closed by the appearance of the lamp. A flickering light seen from any point of the room shows that the bath is being controlled and is operating properly. Sticking contacts are prevented by one contact being oscillated by means of a cam on the propeller shaft. The bath heats rapidly to any test point and the oil is used instead of water as a liquid. The stirring is adequate and insures uniformity of temperature and maintains the proper difference between tube temperature and bath temperature required for testing materials.

TAG HYDROMETER

The new TAG hydrometer has been designed with a streamline tip which affords no corners for collecting dirt and no chance of it being pulled out of the hand in wiping. Instead of the usual mercury ballast, a low melting point alloy in a solid piece has been firmly and ingeniously fastened in the bottom of the instrument so that it cannot come loose even when the hydrometer is inverted.

fatigue!—

the inevitable result of repeated loading

It means failure, replacement, shutdowns, — a chain of grief welded by waste.

It puts a limit on use and the increase of utility finds in fatigue its principle obstacle.

Time alone measures fatigue resistance, tells the story of consequent service.

Significant then that those most concerned with fatigue-immunity more and more often choose Rollway Bearings.

ROLLWAY BEARING

COMPANY INCORPORATED

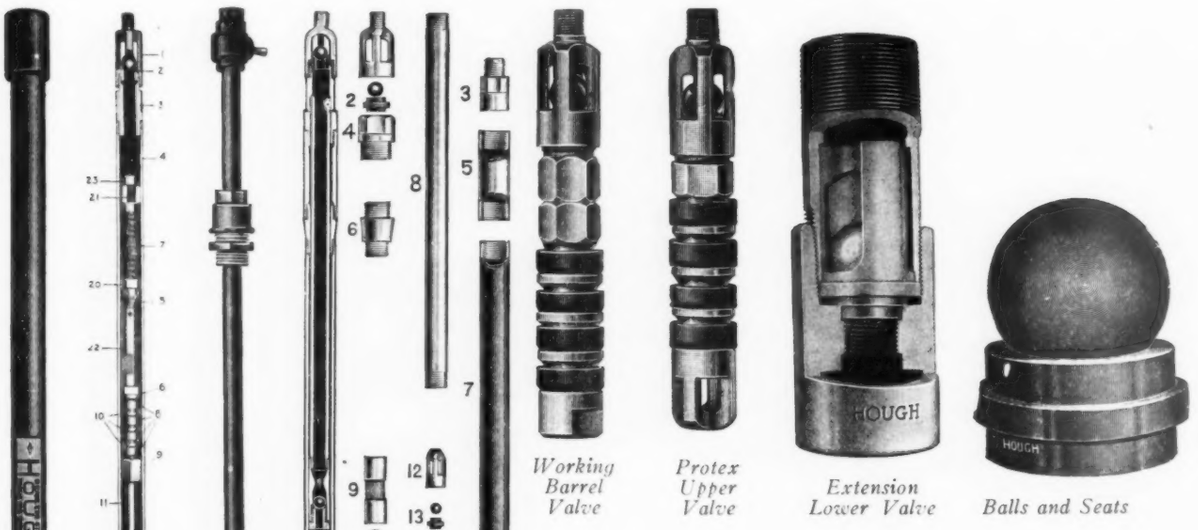
SYRACUSE NEW YORK

ROLLWAY CYLINDRICAL ROLLER BEARINGS

Charles N. Hough Mfg. Company

PUMPING SPECIALTIES

Charles N. Hough Manufacturing Company, Franklin, Pennsylvania, is exhibiting its line of pumping specialties which includes various types of working barrels and working barrel valves. Working barrels made to A. P. I. specifications and chromium plated seamless steel working barrels are shown. The plating is approximately one-thousandth of an inch thick and is resistant to corrosion, abrasion and erosion.



Working Barrel

Huf-Duo Pump

Polished Rod Liner

Lewis Plunger Liner

Working Barrel Valve

Protex Upper Valve

Extension Lower Valve

Balls and Seats

BALLS AND SEATS

Hough specialized balls and seats include Repelex, Steelex, Bronzex and Combinex, each for a particular condition. Steelex is used for sand, Repelex for acid, Bronzex for salt water and lodestone and Combinex for sand and lodestone.

WORKING BARREL VALVES

Working barrel valves of different types are shown in steel, all bronze or steel and bronze combinations. Steel valve parts are made from high manganese steel, bronze valve parts are made of a bronze alloy of high tensile strength.

UPPER VALVE

"Protex" upper valve is made in four, six and eight cup type. The body and bottom are made in one piece; the cups and cup rings are put on the body from the top. The lock nut securely holds the cups in the correct position and at required tension. It is designed to prevent loss of cups and cup rings, which occur when the bottom of a valve becomes unscrewed.

HUF-DUO PUMP

The Huf-Duo pump comes complete, ready to screw on sucker rods. It seats on the top of the old working barrel or tubing seats may be used in new wells. When rods are pulled, the pump, complete with valves, is removed. The stationary plunger tube connects plunger valve and lower valve. The outside tube is the moving or traveling part of the pump.

LEWIS PLUNGER LINER

The Lewis plunger liner is another of the inserted type working barrel that seats on top of the old working barrel. The polished steel plunger works through the stuffing box which is packed with braided cotton rope packing. There are no cups to cut out. Both valves are close together on completion of down stroke.

EXTENSION LOWER VALVE

The Hough extension lower valve is fitted with oversize ball and seat which provides for greater intake of fluid and will increase output of well as space between working barrel valves is completely filled on the up stroke. This eliminates destructive pounding of fluid.

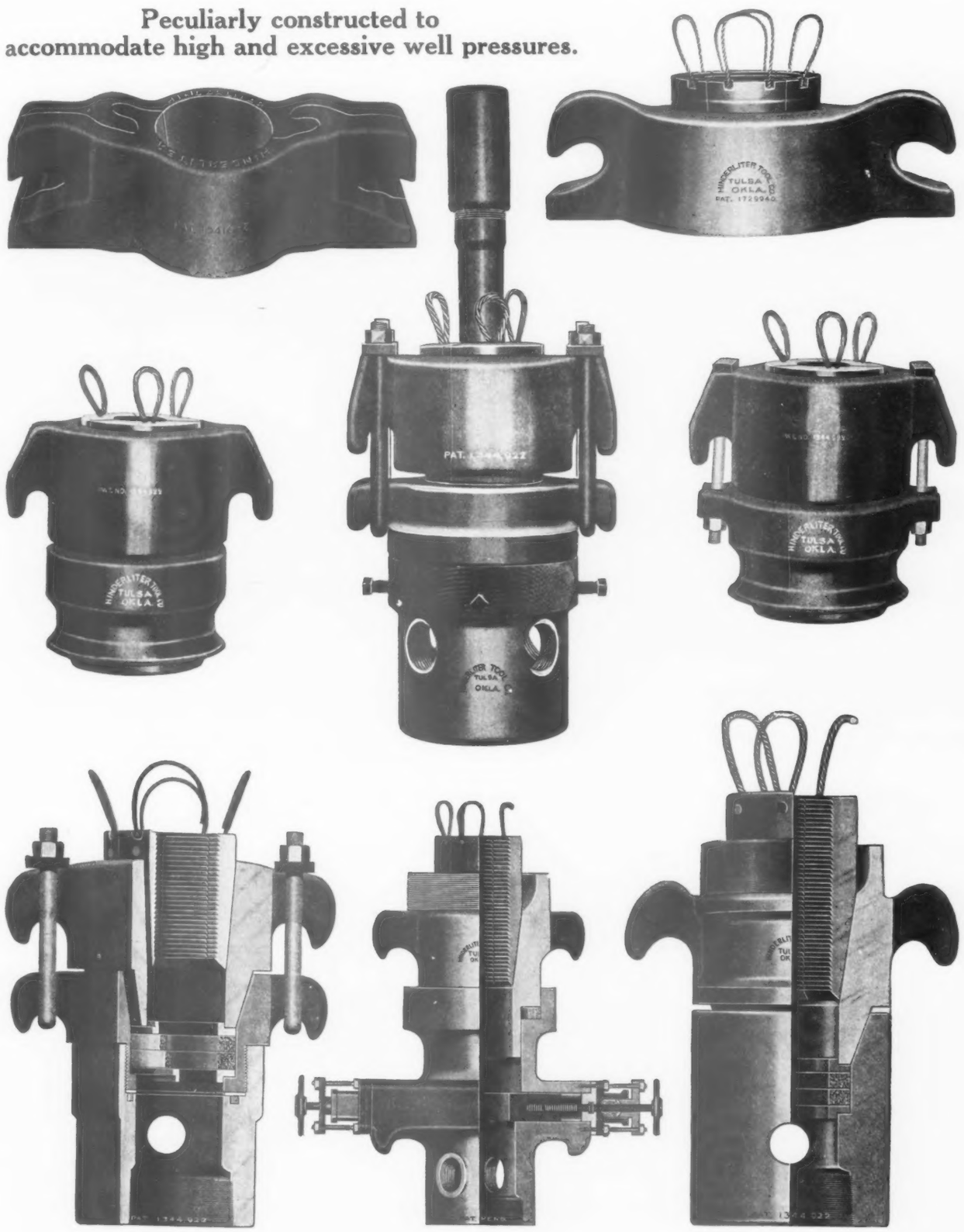
POLISHED ROD LINER

The polished rod liner consists of brass tube, hexagon top bronze stuffing box and cast iron grip stuffing box. The brass tube, which works through the stuffing box, slips over a regular polished rod, and is adjusted and held in place by the grip stuffing box at the upper end. It is kept tight against pressure encountered. It may be used on pitted or scored polished rods.

PATENTED CASING TOOLS

By HINDERLITER

Peculiarly constructed to accommodate high and excessive well pressures.



UNDERGROUND WORK

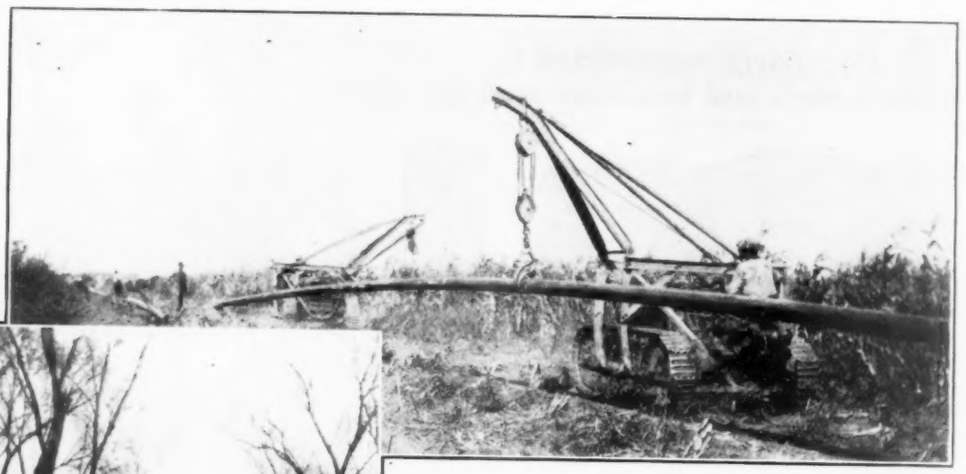


Illustration showing Pipe Line Contract by Cater

Telephone Subway Contract by Cater

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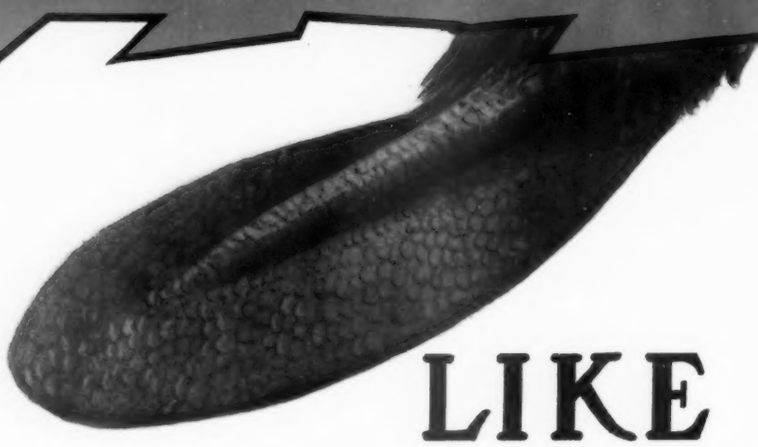
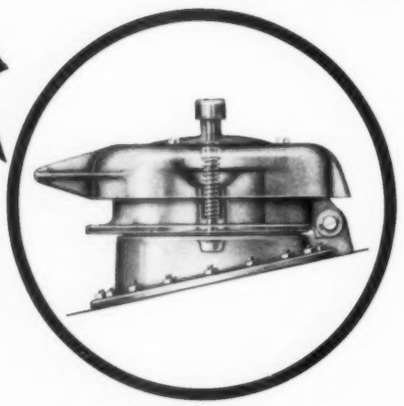
As Watchful as a Beaver



LIKE a beaver's tail!



A phantom view of the Safety Valve—"The Beaver's Tail."

Nature has provided her animals with instincts of protection, methods of caution and warning against danger. Beavers live in colonies with one always on guard. This beaver sleeps with his broad flat tail in the water, so that if, during the night, the dam breaks and the water falls, he feels the difference with his tail, and then immediately warns the other Beavers so they may repair the dam or move out.

The Engineers of the B. S. & B. Vapor Pressure Tanks, like Nature, have prepared a scientific and perfected means of guarding and protecting your crude.

The B. S. & B. Thief Hole Pressure Vacuum Valve—like the Beaver's tail is always on guard. This valve is foolproof and serves a dual purpose—protecting the tank against pressure or vacuum and serves as a thief hole cover. When the pressure inside the tank reaches 16 ounces, the valve automatically opens. Likewise with the vacuum valve, which operates at 2 ounces vacuum, when the tank is cooling, after the heat of the day or when the crude is being drawn from the tank.

B.S.&B. Perfection Vapor Pressure STEEL TANKS For Sweet Crude

These tanks prevent evaporation loss which frequently amounts to as much as five barrels per twenty-four hours in a two hundred fifty barrel tank, and by retaining the light fractions of the crude as it comes from the well, or as the sun shines so hot causing them to be thrown off, the original high gravity is maintained. Thus your crude brings a higher price. These higher prices and your savings from loss will eventually pay for the tank.

These tanks are of flange type construction with four layers of metal, plus a special packing at the seams that makes the tank absolutely TIGHT—air, water, vapor pressure! This construction adds rigidity and strength, as well as being leak-proof.

B. S. & B. Service—"On the Dot—On the Spot"—is a happy adjunct to the B. S. & B. Tanks and other products.

B.S.&B. Vapor Pressure WOOD TANKS For Sour Crude

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BARTLESVILLE - OKLAHOMA

Van Has 750,000 Barrels Daily Potential on First Anniversary

CORSICANA, TEXAS.—First anniversary of the completion of an oil producer at Van will occur on the morning of October 14. During this comparatively brief period the field has developed a potential daily oil yield that is exceeded only by the Yates and Oklahoma City fields, while it is certain to crowd the latter area out of second place honors before the close of 1930. Van field has blossomed into a major source of high gravity sweet oil production during its first year without an aggressive development program, and has not had a disturbing influence in the general crude market situation because of the bulk of the oil area being covered by a unit plan of operation, with six companies participating.

The unit method of developing a flush oil area is being used at Van for the first time. The plan has proven economically successful, and particularly beneficial so far in preventing the field from staging a competitive drilling program and release of production beyond current market demand. Van field will never become a model unit plan for the reason that the unitied area failed to include all the oil producing leases, while unit members showed negligence in curing titles to leases that has resulted in a number of excess tracts and strips of land being uncovered by small operators. Some of the latter have been paid several million dollars in the aggregate to withdraw their claims, while others are proceeding with development within and near the unit block. Except for excess tracts and vacancies, the unit members are also in possession of all the oil producing acreage lying on the east side of the field and outside the pooled acreage. Majority of the members of the unit favored the creation of a second unit to cover the recently proven acreage, but the project fell through for lack of unanimous approval.

Van field will round out its first year with more than 130 flowing and pumping wells in the Woodbine sand horizon, with a total crude recovery of approximately 5,500,000 barrels during this period, although daily output has not been allowed to exceed 35,000 barrels. Production has been held to 27,500 barrels, or less, daily since the inauguration of proration by the Texas Railroad Commission, effective August 15, 1930, and such an allowance will remain in effect until November 1, 1930, such being the date of termination of Pure Oil Company's contract to accept and purchase all oil recovered from the unitized acreage in the field.

Development of the Van area has not progressed sufficiently to arrive at a close estimate as to the total number of acres that will yield oil production from the Woodbine sand formation. The unitized area consists of 5800 acres solid, and one dry hole has been drilled on same, being on the west edge of production, while four dry holes have been drilled by as many companies on the northeast and east flanks of the structure, but outside the block of pooled acreage. The oil producing area has been proven in a north and south direction for a maximum length of about 15,000 feet, while the maximum width in a straight east and west direction is about 10,000 feet. The most prolific wells in the field follow a northeast-southwest trend, which has been proven for a distance of about 20,000 feet, with the southwest open for further extensions.

Potential production of the Van field is generally accepted as being near 750,000 barrels daily. No well in the field has been allowed to produce as much as 5,000 barrels during any single 24-hour period, so open flow potential estimates must be based on calculations. Proration figures released October 1 by Umpire R. E. Andrew credits the field with having 128 completed wells, including five pumpers, that produced at rate of 251,718 barrels daily through 11/16 inch choke. Bi-monthly gauges of each well are taken by the umpire, flowing through 11/16 inch choke for a period of three hours, but only the last two hours are used to determine the daily potential. Such data is necessary on each well to arrive at proration allowances, which are determined by average potential production of each 20-acre, or fractional, unit in the field. No wells are restricted to less than 100 barrels daily should they be capable of producing such an amount.

Shell Petroleum Corporation's E. L. Fowler 6, located on unitized acreage and in the northeast corner of 34.6-acre lease, holds the record for the field on potential production, having flowed at rate of 2928 barrels daily through 11/16 inch choke. This well was completed June 14 with a total depth of 2964 feet. Pure Oil Company's W. T. Jarman 1, discovery well of the field, is credited with a potential production of 2496 barrels daily through 11/16 inch choke. This well opened the field on the morning of October 14 flowing 1790 barrels, partly choked, during first 24 hours at a total depth of 2710 feet. Later development proved that this well had not penetrated the most productive section of the Woodbine formation, so it was killed middle July to deepen to 2947 feet, or exactly 2450 feet below sea-level. The well was restored to production August 5, and gauged 111 barrels per hour during first three hours, flowing through 11/16 inch choke. Bottom hole water encountered in a few producing wells and the failures has resulted in nearly all wells being halted at about 2450 feet sub-sea depth, thus providing a margin of safety on bottom hole water. The average surface elevation in the field is about 500 feet.

Pure Sole Operator

Pure Oil Company's field organization is the sole operator of unitized acreage, while the operating policy is governed by an executive committee, consisting of one representative of each separate unit member. The unit plan was perfected within 15 days after the discovery of production at Van, and officially went into effect November 1, 1929, to continue for five years, or more. Division of oil and gas revenues derived from the unitized acreage is to be made on basis of acreage contributions made by each unit member to the 5800-acre block until May 1, 1932, then a re-evaluation of leases takes place, while the second readjustment period is slated for November 1, 1934. Pure Oil Company earned 81.7 per cent of the total unit, but may

(*Continued on page 190*)

Group of P & W Oil Gages

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Markets--Production--Crude Prices

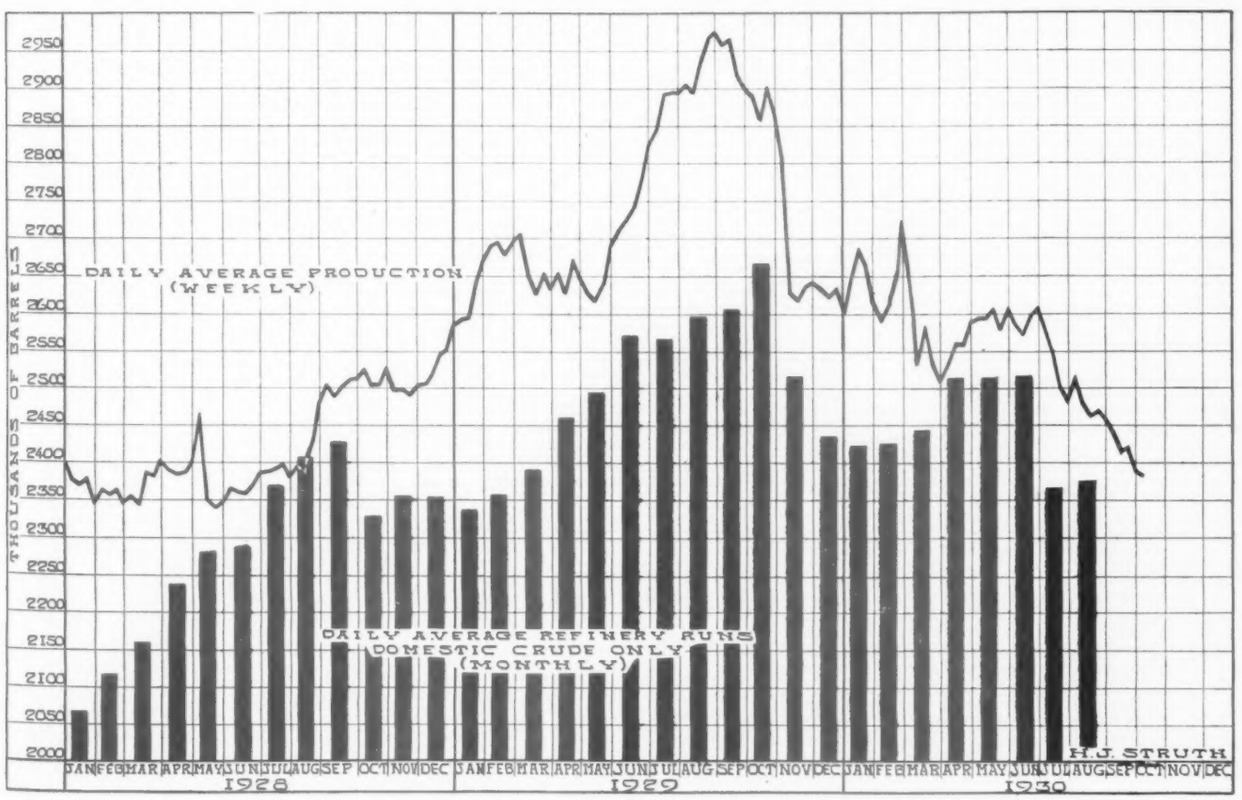
H. J. STRUTH, *Staff Economist, Houston, Texas*

California Reduces National Crude Output

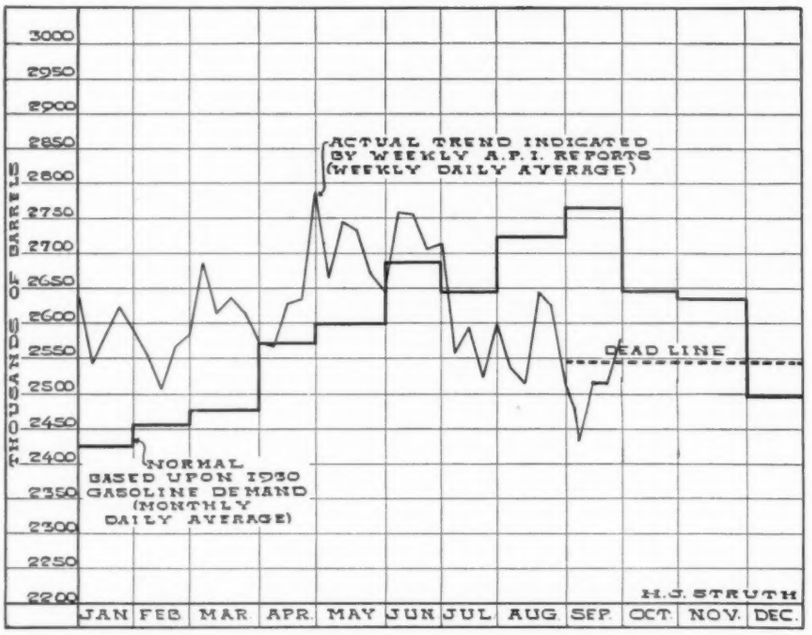
A DECLINE of 8100 barrels in daily average crude production of California last week was mainly responsible for a further decline in the national production curve of 2800 barrels, lowering the total to 2,386,950 barrels a day. California operators are making a more determined effort to bring production down to a maximum figure of 575,000 barrels daily; and present indications point to the probability that this figure will be realized by November 1. The renewed spirit among California operators to curtail to the limit marks another encouraging turn in the situation there that will undoubtedly have a far-reaching effect in the near future. The proration schedule for California calls for a reduction of state production to 540,000 barrels daily, whereas last week's actual output of the state was 586,200 barrels daily. When it is considered that only a short time ago no little difficulty was experienced in attempting to reduce production to 594,000 barrels daily, actual production remaining stubbornly above the 600,000 barrels mark, it is gratifying to note recent accomplishments.

Oklahoma producers last week approved a program of state proration giving Oklahoma City a pipe line outlet of 130,000 barrels daily. They also approved a plan whereby all leases producing in excess of five barrels a day will be placed on proration. While the Oklahoma City outlet has been increased, it is expected that the actual market requirements of the state during the remainder of this year will not fall below 535,000 barrels daily, while the committee in charge of proration

DOMESTIC PRODUCTION AND REFINERY RUNS



RUNS OF CRUDE OIL TO STILLS



schedules firmly believes that the Oklahoma City pool will have reached its peak of potential production by January 1. A preliminary survey of the immediate future of the Oklahoma City area indicates that the peak of that field will be seen during December when the total will probably reach 3,446,000 barrels daily. At this rate, the potential of the state will probably amount to 4,244,294 barrels, whereas the allowable production at that time has been fixed at a maximum of 535,000 barrels, of which Oklahoma City will probably produce 131,000 barrels

Future Brighter

With California and Oklahoma operators determined to hold their production at prescribed limits for the balance of this year and Texas operators only slightly less determined to maintain production at limits ordered by the railroad commission, it begins to look as though the production program for the balance of this year, at least, is definitely settled. While there is still little encouragement, marketwise, for the producer, it must be conceded that continued effort to hold production down to market requirements will eventually bring a long-sought reward in the form of better prices. If the same degree of curtailment effort had been applied to the refining branch of the industry during recent months, conditions would have justified a better market tone for producers. As it is, the gasoline situation has shown practically little improvement, while prices have been subjected to consistent recessions.

Until the refining branch of the industry redoubles its efforts to reduce gasoline stocks by at least 10,000,000 barrels, there will be little opportunity for the producer to realize any financial benefit from the sacrifices he is making in the way of curtailed production. This is not a very encouraging situation but there is no other course for the producer to take but to continue to keep his house in order. If the refining situation shows any degree of improvement over the balance of this year and the beginning of next year the producer can only benefit if he has continued to maintain production at present levels. In other words, while the immediate outlook for a better crude market rests almost entirely with the refiner, it is up to the producer to keep his situation in a state of equilibrium that will insure a turn, hand in hand, with any improvement in the gasoline market. If still runs are curtailed sufficiently throughout the balance of this year, there is every reason to believe that the turn of next year will justify some market improvement. It is not too late for the refiner to bring about a drastic program of curtailment that would wipe out

CRUDE RUNS TO STILLS, GASOLINE AND GAS AND FUEL OIL STOCKS, WEEK ENDING SEPTEMBER 27, 1930

(Figures in barrels of 42 gallons)

District—	Potential Daily Capacity	Potential Capacity Reporting Total	Potential Capacity Reporting Per Cent	Crude Runs to Stills Total	Crude Runs to Stills Daily Average	Crude Runs to Stills Per Cent Operated	Gasoline Stocks	Gas & Fuel Oil Stocks
East Coast	608,700	608,700	100.0	3,557,000	508,100	83.5	5,301,000	11,562,000
Appalachian	128,100	117,600	91.8	574,000	82,000	69.7	1,079,000	1,115,000
Indiana, Illinois, Kentucky	382,500	381,000	99.6	2,018,000	288,300	75.7	5,558,000	4,419,000
Oklahoma, Kansas, Missouri	462,200	412,700	89.3	1,781,000	254,400	61.6	2,470,000	4,855,000
Texas	788,000	712,700	90.4	4,166,000	595,100	83.5	5,969,000	10,651,000
Louisiana-Arkansas	270,600	262,000	96.8	1,150,000	164,300	62.7	1,270,000	2,160,000
Rocky Mountain	148,900	139,300	93.6	391,000	55,900	40.1	1,813,000	1,125,000
California	897,400	891,400	99.3	3,875,000	553,600	62.1	13,762,000	104,892,000
Total Week September 27	3,686,400	3,525,400	95.6	17,512,000	2,501,700	71.0	37,222,000	140,779,000
Total Week September 20	3,686,400	3,525,400	95.6	17,086,000	2,440,900	69.2	37,260,000	140,376,000
The Total U. S. Figures for Last Year, Shown Immediately Below, are not Comparable with This Week's Totals because of Difference in Percentage Capacity Reporting								
Total September 28, 1929	3,404,700	3,214,000	94.4	19,076,000	2,725,200	84.8	31,309,000	*142,456,000
The Texas and Louisiana Gulf Coastal Figures Shown Below are Included above in the Totals of Their Respective Districts.								
Texas Gulf Coast	526,500	526,500	100.0	3,173,000	453,300	86.1	4,786,000	7,798,000
Louisiana Gulf Coast	147,500	147,500	100.0	809,000	115,600	78.4	1,011,000	1,437,000

*Revised.

a considerable portion of the excess gasoline supply by the end of the year. In fact, it is entirely possible for the refining branch to completely dissipate the present excess gasoline supply before the beginning of next year's motoring season. If that goal is realized, and the producing branch has continued to keep its house in order, it is obvious that justified market improvements will become realized.

California Nearer Goal

California has succeeded in reducing production of crude to the point where it is now 7800 barrels daily below the former allowable figure of 594,000 barrels. Texas has also brought production down to a point 6500 barrels below the temporary allowable output of 775,000 barrels daily. Oklahoma's production is only 8450 barrels a day above the allowable figure of 550,000 barrels. On the whole, the excess production figure for the United States has been dwindled down to a mere 18,343 barrels a day. This means that United States crude production has been reduced a total of 586,500 barrels from the peak attained during August of last year. It is only natural that many producers have expressed disgust with proration activities, pointing out that all of their efforts in this direction have meant practically nothing to them from a financial standpoint. The fact remains, however, that it would have meant a great deal had it not been for laxness on the part of refiners to recognize the urgent need for greater curtailment of still runs. As was pointed out before, it is not too late for the industry to correct the unfavorable gasoline situation and upon the success of such curtailment effort depends the immediate outlook for both branches of the industry.

Still Runs Decline

Refinery still runs for the week ending October 4, according to returns received by the American Petroleum Institute, aggregated 16,742,000 barrels, or a daily average of about 2,391,000 barrels. This represents a decline from the preceding week of about 110,000 barrels and brings the total down to the level attained during the week of September 6, when runs had receded to the lowest point of the present year. This is a favorable development and perhaps indicates that the refining industry has determined to curtail runs sufficiently to wipe out the excess supply of gasoline during the winter months. Gasoline stocks as of October 4 aggregated 36,441,000 barrels, or a decline from the preceding week of 781,000 barrels. This is a substantial decline and indicates an unusual rate of demand during the past week, which was further aided by the decrease in still runs. Continued effort in this direction cannot fail to bring about much needed improvement in the gasoline situation by the beginning of the next motoring season.

Recompletion of Delridge Oil Company's No. 15 in the North Belridge field with a flow of 50,000,000 cubic feet of gas and up to 1500 barrels of 55 gravity oil is a very important market development in California and means perhaps the development of a wide area in the Temblor formation which is producing at Kettleman Hills. No official gauge of the oil flow has been made but a good commercial well is assured. Completion of such a well makes available another very light oil field and this district will eventually have a direct effect upon gasoline and crude markets. The well was completed at 5457 feet. The general district is level and accessible and most of the land is held in fee. This means that the various companies

HOW LAST WEEK'S DAILY AVERAGE PRODUCTION COMPARES WITH NECESSARY AND NORMAL QUOTA LIMIT

	Necessary Daily Average 3rd Quarter 1930	Quota Limit Prescribed to Correct Previous Excesses	Actual Daily Average Week Ending October 4, 1930	Excess
Arkansas	62,431	62,431	53,150	—9,281
California	664,149	594,000	586,200	—7,800
Kansas	120,222	105,554	115,950	10,396
Louisiana	60,116	58,749	69,800	11,051
Oklahoma	669,115	550,000	558,450	8,450
Texas	839,361	775,000*	768,500	—6,500
Balance of U .S.	230,000	230,000	234,900	4,900
Total	2,645,394	2,368,607	2,386,950	18,343

*Limit set by R. R. Commission beginning August 27.

IMPORTS OF PETROLEUM AT PRINCIPAL UNITED STATES PORTS

(Barrels of 42 gallons)

	Week Ended September 27		Week Ended September 20
AT ATLANTIC COAST PORTS—			
Baltimore	335,000		209,000
Boston	.....		133,000
New York	1,351,000		1,008,000
Philadelphia	140,000		220,000
Others	205,000		144,000
Total	2,031,000		1,714,000
Daily Average	290,143		244,857
AT GULF COAST PORTS—			
Galveston District	.....		63,000
New Orleans & Baton Rouge	166,000	"A"	139,000
Port Arthur & Sabine District	.....		.....
Tampa	40,000		.....
Total	206,000		202,000
Daily Average	29,428		28,857
AT ALL UNITED STATES PORTS—			
Total	2,237,000		1,916,000
Daily Average	319,571		273,714
Daily Avg. Four Weeks Ended	205,786		272,964
Distribution of Total Imports is as Follows:			
Crude	1,405,000	"A"	1,361,000
Gasoline	462,000		.....
Gas Oil	60,000		.....
Fuel Oil	310,000		555,000
Total	2,237,000		1,916,000

"A"—Revised.

CALIFORNIA OIL RECEIPTS AT ATLANTIC COAST AND GULF COAST PORTS

(Barrels of 42 gallons)

	Week Ended September 27	Week Ended September 20
AT ATLANTIC COAST PORTS—		
Baltimore	81,000	27,000
Boston	40,000	.....
New York	197,000	75,000
Philadelphia	114,000	78,000
Others	86,000	39,000
Total	518,000	219,000
Daily Average	74,000	31,286
AT GULF COAST PORTS—		
Total	.....	.....
Daily Average	.....	.....
AT ATLANTIC AND GULF COAST PORTS—		
Total	518,000	219,000
Daily Average	74,000	31,286
Daily Avg. Four Weeks Ended	67,250	67,036
Distribution of Total California Receipts is as Follows:		
Gasoline	401,000	216,000
Gas Oil	52,000	.....
Fuel Oil	65,000	.....
Lubricants	.....	3,000
Total	518,000	219,000

Weekly Comparisons of Permits Granted for New Wells

States—	Week Ending September 27	Previous week	This week 1929	Total this month	This month 1929	Total this year	Total this date last year	1929 year total
Arkansas	..	2	4	..	4	81	124	159
California	24	25	31	24	31	690	994	1,231
Louisiana	11	18	18	11	18	784	674	903
Kansas	..	9	10	..	10	772	849	1,079
Oklahoma	..	34	67	..	67	2,337	2,737	3,578
Texas	93	108	141	93	141	5,983	6,738	8,697
Total	128	196	271	128	271	10,647	12,116	15,647

are free to develop their holdings as they see fit, although most of the operators believe in curtailment. The gasoline market would feel the direct effect of a large production of very light oil, while the heavier oil fields would find it difficult to compete with the light gravity crude. The oil is similar to that produced at Kettleman Hills.

Hearing on Oil Investigation to Be Held October 31

Washington, D. C.—A public hearing on the oil investigation required to be made by specific provisions of the tariff act of 1930 will be held October 31, it was announced Tuesday by the United States Tariff Commission. Notification of the hearing is being sent to all oil companies and others believed to be interested with announcement that they may be heard at that time, if they desire.

Provision for an investigation of the oil situation of the commission was included in the tariff act through the efforts of Senator Thomas of Oklahoma after the so-called independents had failed in their attempts to secure the levying of duties on crude petroleum and its products. Under the law, the commission is required to ascertain "the approximate average cost per barrel to the oil refineries located on the Atlantic seaboard of crude petroleum delivered to them from the oil fields of the United States during the three years preceding 1930, and the present approximate average cost per barrel of crude petroleum from Lake Maracaibo, Venezuela, delivered to the same points."

The act requires the commission to make its report within eight months from the date of passage, so that the commission must complete its investigation and submit its finding not later than February 17, next. A round half-dozen attempts were made by the independents to secure duty rates while the tariff was under consideration in congress last year. Failing in the effort, the investigation was resorted to, it being contended that the cost of delivering foreign oil to refineries along the Atlantic seaboard from underground Venezuela was 75 cents per barrel, while the Mid-Continent producers' costs to get the oil to the top of the well was $1.70. During debates on the subject, Senator Thomas charged that the "big" companies were importing oil at very low cost, thus adding to the serious situation which the industry was then facing as a result of overproduction.

Summarized Review of Field Results

	Completions		Oil Wells		Gas Wells		Failures		Initial Prod.	
	This week.	Last week.	This week.	Last week.	This week.	Last week.	This week.	Last week.	This week.	Last week.
Arkansas	..	2	..	2	..	..	..	..	..	35
California	15	20	15	16	..	..	..	4	7,670	19,105
Illinois	2	1	2	1	..	..	..	..	51	45
Indiana	5	6	3	1	..	2	2	3	87	2
Kansas	35	12	13	5	12	1	10	6	6,635	2,885
Kentucky	14	11	6	3	4	1	4	7	226	15
Louisiana	20	15	7	5	4	5	9	5	2,527	1,771
Michigan	9	13	3	9	1	..	5	4	595	1,115
Mississippi	2	4	..	..	..	3	2	1	..	..
New Mexico	5	16	4	16	..	..	1	..	27,835	147,860
New York	..	4	..	4	..	..	..	..	..	11
Ohio	36	26	9	7	14	12	13	7	403	51
Oklahoma	57	56	33	38	11	7	13	11	79,050	102,960
Pennsylvania	..	25	..	23	..	1	..	1	..	148
Texas	117	110	68	67	13	3	36	40	30,355	62,602
West Virginia	13	..	5	..	5	..	3	..	57	..
Total	330	321	168	197	64	35	98	89	155,491	338,551
Increase this week	9	..	..	..	..	..	9	..	..	..
Decrease this week	..	..	29	..	29	..	..	..	183,060	..

United States Daily Average Production

Figures below are taken from the complete revised estimates of the AMERICAN PETROLEUM INSTITUTE except for the current week, which are advance estimates issued by the A. P. I. and are subject to revision:

1929	Oklahoma	Kansas	Texas (Outside Gulf Coast)	Gulf Coast	North Louisiana	Arkansas	Eastern States	Rocky Mountain	California	United States Daily Av.	United States Total
August	728,100	127,950	750,750	153,100	36,300	66,900	126,600	77,900	873,300	2,940,900	91,167,250
September	714,050	128,450	741,200	156,600	37,050	65,300	137,250	78,600	874,850	2,933,350	88,000,650
October	673,600	113,400	714,550	167,050	39,700	64,550	137,400	77,950	876,600	2,864,800	88,809,500
November	640,300	110,050	702,350	171,350	36,750	63,700	135,400	76,550	706,500	2,642,800	79,285,050
December	650,000	111,600	687,850	161,350	38,700	61,850	140,650	76,150	698,200	2,626,350	81,417,000
1930											
January	671,050	111,700	672,650	178,300	37,650	58,500	142,250	73,850	688,850	2,634,800	81,574,650
February	631,900	111,400	654,600	199,950	39,450	58,400	135,050	74,850	746,550	2,652,150	74,280,200
March	622,650	115,500	644,400	206,000	41,600	58,600	132,700	73,600	649,000	2,544,050	78,865,400
April	657,050	122,200	640,950	206,800	42,100	57,800	138,700	75,950	625,700	2,576,250	77,018,100
May	663,300	131,000	662,350	203,900	39,900	53,800	137,150	82,500	623,700	2,597,700	80,529,600
June	665,550	133,600	668,300	210,500	40,300	56,900	135,750	84,600	598,000	2,593,500	77,806,900
July	594,750	121,600	652,350	209,400	40,550	55,400	137,200	98,350	610,450	2,520,050	78,121,200
August	558,850	115,650	646,400	206,600	41,500	55,100	128,550	106,000	611,250	2,470,900	76,597,600
Sept. 6	565,000	113,550	625,150	204,200	40,450	53,500	122,850	106,050	606,300	2,437,050	17,059,350
Sept. 13	549,100	118,550	610,450	203,450	39,850	53,550	121,150	109,950	613,700	2,419,750	16,938,250
Sept. 20	563,600	117,300	598,750	200,250	40,500	53,650	121,050	113,100	613,600	2,421,800	16,952,600
Sept. 27	559,000	116,650	596,300	197,450	40,050	53,600	120,500	111,900	594,300	2,389,750	16,728,250
Oct. 4	558,450	115,950	602,150	196,250	39,900	53,150	121,850	113,050	586,200	2,386,950	16,708,650
Increase	.....	.....	5,850	.....	.....	.....	1,350	1,150	.....	.....	.....
Decrease	550	700	.....	1,200	150	450	.....	.....	8,100	2,800	19,600

TEXAS
(Outside Gulf Coast)
PANHANDLE DISTRICT

	Oct. 4	Sept 27
Carson County	6,950	6,800
Gray County	54,750	53,600
Hutchinson County	16,100	17,300
Wheeler County	700	500
Others	300	400
Total	78,800	78,600

NORTH TEXAS

Archer County	13,800	12,950
Burkburnett	7,800	7,850
Electra	10,750	10,700
Iowa Park-KMA	4,650	4,450
Montague and Cooke Cos.	9,250	9,300
Wilbarger	16,200	15,800
Others	2,000	2,100
Total	64,450	63,150

WEST CENTRAL TEXAS

Brown County	5,400	5,500
Callahan County	3,000	3,050
Coleman County	2,700	2,750
Eastland-Desdemona	5,250	5,300
Jack County	2,100	1,600
Palo Pinto County	400	450
Shackelford County	6,800	6,800
Stephens County	5,250	5,300
Throckmorton County	700	700
Young County	15,500	13,900
Others	1,350	1,300
Total	48,450	46,650

WEST TEXAS

Crane-Upton Counties	34,750	33,500
Crockett County	2,100	2,150
Ector	7,200	9,600
Howard County	23,300	23,800
Jones County	1,300	1,350
Mitchell-Scurry Cos.	2,400	2,200
Pecos County	3,200	3,300
Reagan County	23,200	23,100
Winkler County	61,200	62,000
Yates	104,450	102,250
Others	7,700	6,000
Total	269,800	269,250

EAST CENTRAL TEXAS

Boggy Creek	2,600	2,600
Corsicana-Powell	5,500	5,400
Currie	400	350
Mexia	4,200	4,150
Nigger Creek	200	200
Richland	150	150
Van Zandt	29,000	28,500
Wortham	600	650
Total	42,650	42,000

SOUTHWEST TEXAS

Chapman-Abbott	10,500	10,950
Dale	250	300
Darst Creek	44,700	42,500
Laredo District	12,550	13,500
Luling	10,000	10,000
Lytton Springs	850	850
Salt Flat	17,000	16,500
Somerset	1,550	1,500
Others	600	550
Total	98,000	96,650
T'tl Tex. (Outside Gulf Coast)	602,150	596,300

TEXAS GULF COAST

Barbers Hill	17,900	17,600
Batson	1,150	1,150
Big Creek	3,450	3,400
Blue Ridge	1,850	2,000
Boling	1,000	950
Damon Mound	700	650
Esperson	3,250	3,300
Fannett	700	700
Goose Creek	4,700	4,500
Hankamar	1,400	1,550
Hull	7,700	8,100
Humble	14,400	16,500
North Dayton	1,250	1,450
Orange	2,000	2,000
Orchard	2,200	2,300
Pettus	8,400	7,600
Pierce Junction	10,500	10,500
Port Neches	1,500	1,500
Raccoon Bend	12,000	12,100
Refugio	27,100	28,300
Saratoga	1,100	1,100
Somerville	2,550	2,700
Sour Lake	2,200	2,100
South Liberty	3,300	3,350
Spindle Top	15,800	15,050
Sugar Land	11,700	11,450
West Columbia	4,000	4,100
Others	2,550	2,350
Total	166,350	168,450
Texas Total	768,500	764,750

OKLAHOMA

Allen	14,000	14,250
Asher	1,150	1,150
Blackwell	3,000	3,000
Bowlegs	14,900	14,900
Braman	3,200	3,200
Bristow Slick	15,100	15,100
Burbank	15,400	15,450
Carr City	7,400	9,700
Cromwell	7,350	7,400
Cushing	13,500	13,500
Davenport	1,150	1,150
Duncan District	8,850	8,950
Earlsboro	17,400	20,450
East Earlsboro	17,700	17,250
East Little River	12,500	12,250
East Seminole	2,200	2,100
Fox	1,200	1,150
Garber	4,550	4,550
Graham	3,300	3,250
Healdton	12,000	11,950
Hewitt	6,950	7,000
Hubbard	1,400	1,400
Konowa	18,150	16,400
Little River	23,600	24,800
Logan Co.	4,400	4,600
Maud	3,000	3,700
Mission	5,550	7,150
North Okmulgee	10,450	10,250
Oklahoma City	110,500	104,400
Osage (Outside Burbank)	24,950	25,000
Papoose	2,650	2,600
Pearson	700	700
St. Louis	24,850	24,750
Sasakwa	5,700	5,300
Schoien, Alechem	13,650	13,500
Searight	7,300	7,350
Seminole	14,300	14,750
S. Earlsboro	9,150	8,850
South Okmulgee	6,900	6,900
Thomas	650	650
Tonkawa	6,250	6,250
West Asher	7,050	6,950
Wewoka	3,800	3,750
Yale Jennings	7,150	7,200
Others	63,550	64,100
Total	558,450	559,000

CALIFORNIA

Dominguez	10,000	10,000
Elwood-Goleta	32,000	33,600
Huntington Beach	27,600	28,000
Inglewood	15,700	16,700
Kettleman Hills	24,200	24,000
Long Beach	100,500	99,600
Midway-Sunset	61,500	62,500
Playa Del Rey	20,000	19,000
Santa Fe Springs	94,700	96,700
Seal Beach	19,000	20,200
Ventura Avenue	46,500	47,400
Others	135,000	137,000
Total	586,200	594,300

KANSAS

Augusta-Fox Bush	2,850	2,850
Churchill	3,550	3,600
Eldorado-Towanda	13,850	13,900
Florence-Covert	800	800
Greenwood County	18,400	18,450
Oxford	2,600	2,500
Peabody-Ebling	2,550	2,550
Rainbow Bend	1,100	1,100
Russell	3,000	3,000
Sedgewick	23,000	22,100
Voshell	9,250	10,250
Others	35,000	35,500
Total	115,950	116,650

NORTH LOUISIANA

	Oct. 4	Sept 27
Caddo Heavy	2,750	2,700
Caddo Light	8,950	8,800
Carterville	2,550	2,650
Cotton Valley	1,850	1,850
DeSoto-Red River	3,000	2,950
Haynesville	4,900	4,900
Holly	1,000	1,100
Homer	3,450	3,450
Urania	5,250	5,250
Zwolle	4,500	4,700
Others	1,700	1,700
Totals North Louisiana	39,900	40,050

LOUISIANA GULF COAST

Bayou Bouillon	150	200
East Hackberry	2,900	2,650
Edgerly	950	400
Evangeline	400	2,050
Hackberry	2,100	1,000
Lake Barre	1,000	1,050
Lockport	2,750	2,600
Port Barre	3,600	3,600
Sorrento	50	50
Sulphur Dome	2,500	2,800
Sweetlake	1,150	1,200
Vinton	9,950	9,000
White Castle	1,100	1,100
Others	1,300	1,300
Total Louisiana Gulf Coast	29,900	29,000
Louisiana Total	69,800	69,050

ARKANSAS

Champagnolle	3,750	3,750
El Dorado	4,050	4,050
Lisbon	900	900
Nevada	1,000	1,000
Smackover Heavy	36,400	36,800
Smackover Light	5,000	5,050
Stephens	900	900
Others	1,150	1,150
Total	53,150	53,600

MOUNTAIN STATES
WYOMING

Big Muddy	1,950	1,950
Elk Basin	800	400
Grass Creek	2,050	2,100
La Barge	2,100	1,900
Lance Creek	150	100
Lost Soldier	5,750	5,600
Oregon Basin	2,500	2,500
Rock River	2,150	2,100
Salt Creek	29,100	30,300
Others	5,450	6,500
Total	52,000	53,450

MONTANA

Cat Creek	1,100	1,100
Pondera	1,650	1,400
Sunburst	6,100	6,100
Others	100	100
Total	8,950	8,700

COLORADO

Florence	600	400
Fort Collins	1,150	1,100
Moffats (Craig)	1,000	1,250
Others	1,550	1,500
Total	4,300	4,250

NEW MEXICO

Artesia	700	700
Balance Lea County	7,000	42,850
Hobbs High	38,150	.....
Hogback	400	400
Rattlesnake	1,250	1,250
Table Mesa	100	100
Eddy	200	200
Totals	47,800	45,500
Total Mountain States	113,050	111,900

EASTERN STATES

(Including Ill., Ind., Ohio, W. Va., Pa., Ky., N. Y.)	114,000	112,500
Michigan	7,850	8,000
Total Eastern States	121,850	120,500

PRODUCTION SUMMARY

East of Rockies	1,687,700	1,683,550
Total U. S.	2,386,950	2,389,750

Crude Oil Price Quotations

(Revised to October 7, 1930)

EASTERN STATES

(Effective September 18, 1930)

*Bradford Grade	$2.55
Penn Grade Oil in National Transit Lines (Pennsylvania)	2.30
Penn Grade Oil in Southwest Pennsylvania Lines (Penna.)	2.25
Penn Grade Oil in Eureka Pipe Line Lines (West Virginia)	2.15
Penna Grade Oil in Buckeye Pipe Line Lines (Ohio)	1.90
Cabell Grade Oil in Eureka Pipe Line Lines (West Virginia)	1.55
Corning Grade Oil in Buckeye Pipe Line Co.'s Lines	1.50
Somerset Oil in Cumberland Pipe Line Lines (Kentucky)	1.30
Ragland Grade Oil in Cumberland Pipe Line Lines (Kentucky) (Effective Jan. 29, 1929)	.60
Wayne Dist. Oil in Cumberland Pipe Lines	1.24

*Posted by Tidewater Pipe Company.

CENTRAL STATES

(Effective June 26, 1930)
Posted by Ohio Oil Company

Illinois	$1.65
Indiana	1.32
Lima	1.55
Plymouth	1.23
Princeton	1.65
Wooster	1.70

WESTERN KENTUCKY

All grades	1.55

OKLAHOMA-KANSAS

(Effective April 10, 1930)

Below 25 gravity	$ .75
25 to 25.9 gravity	.80
26 to 26.9 gravity	.85
27 to 27.9 gravity	.90
28 to 28.9 gravity	.95
29 to 29.9 gravity	1.00
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

PANHANDLE

(Effective April 10, 1930)

GRAY COUNTY

Below 29 gravity	.755
29 to 29.9 gravity	.805
30 to 30.9 gravity	.855
31 to 31.9 gravity	.905
32 to 32.9 gravity	.955
33 to 33.9 gravity	1.005
34 to 34.9 gravity	1.055
35 to 35.9 gravity	1.09
36 to 36.9 gravity	1.125
37 to 37.9 gravity	1.16
38 to 38.9 gravity	1.195
39 to 39.9 gravity	1.23
40 to 40.9 gravity	1.265
41 to 41.9 gravity	1.30
42 to 42.9 gravity	1.335
43 to 43.9 gravity	1.37
44 and above	1.405

CARSON-HUTCHINSON COUNTIES

Below 32 gravity	$ .775
32 to 32.9 gravity	.825
33 to 33.9 gravity	.875
34 to 34.9 gravity	.925
35 to 35.9 gravity	.965
36 to 36.9 gravity	.995
37 to 37.9 gravity	1.03
38 to 38.9 gravity	1.065
39 to 39.9 gravity	1.10
40 to 40.9 gravity	1.135
41 to 41.9 gravity	1.17
42 to 42.9 gravity	1.205
43 to 43.9 gravity	1.24
44 and above	1.275

WHEELER COUNTY

Below 30 gravity	$ .755
30 to 30.9 gravity	.805
31 to 31.9 gravity	.855
32 to 32.9 gravity	.905
33 to 33.9 gravity	.955
34 to 34.9 gravity	1.005
35 to 35.9 gravity	1.04
36 to 36.9 gravity	1.075
37 to 37.9 gravity	1.11
38 to 38.9 gravity	1.145
39 to 39.9 gravity	1.18
40 to 40.9 gravity	1.215
41 to 41.9 gravity	1.25
42 to 42.9 gravity	1.285
43 to 43.9 gravity	1.32
44 and above	1.355

WEST TEXAS

(Effective April 10, 1930)

Crane-Upton, Crockett, Ector, Howard, Pecos and Winkler Counties and Lea County, N. Mex.

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.77
29 to 29.9 gravity	.80
30 to 30.9 gravity	.83
31 to 31.9 gravity	.86
32 to 32.9 gravity	.89

CRUDE OIL PRICES AT THE WELL

San Francisco, Cali., September 12, 1930

Effective September 15, 1930, at 7:00 A. M. the following are the current prices offered by
STANDARD OIL COMPANY OF CALIFORNIA
For Crude Oil at the Well (Except Elwood Terrace as below).
Price Per Barrel in Fields Indicated

Gravity	Signal Hill	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Olinda-Brea Canou	Athens-Rosecrans Dominguez	Elwood Terrace	Torrance	Richfield	Whittier La Habra	Montebello	Coyote Hills	Santa Fe Springs	Newhall McKittrick Kern River	Midway-Sunset Elk Hills	Buena Vista Hills	Lost Hills	Coalinga	Wheeler Ridge	Gravity
14-14.9	$ .70	$ .70	$ .70	$ .70	$ .70	$ .70			$ .70	$ .70	$ .70	$ .70	$ .70		$ .55	$ .55	$ .55	$ .55	$ .55	$ .55	14-14.9
15-15.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	15-15.9
16-16.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	16-16.9
17-17.9	.70	.70	.70	.70	.70	.70			.70	.70	.70	.70	.70		.55	.55	.55	.55	.55	.55	17-17.9
18-18.9	.76	.76	.76	.76	.76	.76			.76	.76	.76	.71	.76		.55	.62	.62	.62	.62	.62	18-18.9
19-19.9	.82	.82	.82	.82	.82	.82			.82	.82	.82	.77	.82		.55	.70	.70	.70	.70	.70	19-19.9
20-20.9	.88	.88	.88	.88	.88	.88			.88	.88	.87	.83	.87			.78	.78	.78	.78	.78	20-20.9
21-21.9	.94	.94	.94	.94	.94	.94			.94	.94	.93	.90	.93	$ .92		.86	.86	.86	.86	.86	21-21.9
22-22.9	1.00	1.00	1.00	1.00	1.00	1.00			1.00	1.00	.98	.97	.98	.95		.94	.94	.94	.94	.94	22-22.9
23-23.9	1.07	1.07	1.07	1.07	1.07	1.07			1.07	1.07		1.05	1.04	1.01		1.02	1.02	1.02	1.02	1.02	23-23.9
24-24.9	1.12	1.12	1.12	1.12	1.12	1.12	$1.12		1.12	1.12		1.08	1.08	1.05		1.06	1.06	1.06	1.04	1.04	24-24.9
25-25.9	1.17	1.17	1.17	1.17	1.17	1.17	1.17		1.17	1.17		1.11	1.12	1.09		1.10	1.10	1.10	1.06	1.06	25-25.9
26-26.9	1.22	1.22	1.22	1.22	1.22	1.22	1.22		1.22	1.22		1.15	1.16	1.13		1.14	1.14	1.14	1.08	1.08	26-26.9
27-27.9	1.26	1.26	1.26	1.26	1.26	1.26	1.27		1.26	1.26		1.19	1.21	1.18		1.18	1.18	1.18	1.11	1.10	27-27.9
28-28.9	1.30	1.30	1.30	1.30	1.30	1.30	1.32		1.30	1.30		1.23	1.25	1.23		1.23	1.23	1.23	1.15		28-28.9
29-29.9	1.34	1.34	1.34	1.34		1.34	1.37			1.34		1.26	1.29	1.28		1.29	1.29	1.29	1.19		29-29.9
30-30.9	1.38	1.38	1.38	1.38		1.38	1.42			1.38		1.29	1.33	1.33		1.35	1.35	1.35	1.23		30-30.9
31-31.9	1.43	1.43	1.43	1.43		1.43	1.43							1.38		1.41	1.41	1.41	1.27		31-31.9
32-32.9	1.48	1.48	1.48	1.48			1.52							1.43		1.47	1.47	1.47	1.31		32-32.9
33-33.9							1.57							1.48		1.53	1.53	1.53	1.35		33-33.9
34-34.9							1.62	$1.32						1.53				1.59	1.39		34-34.9
35-35.9							1.66	1.39						1.58				1.65	1.43		35-35.9
36-36.9							1.72	1.46						1.63							36-36.9
37-37.9							1.78	1.53						1.68							37-37.9
38-38.9							1.84	1.60						1.73							38-38.9
39-39.9							1.90	1.66						1.78							39-39.9
40-40.9							1.96	1.72													40-40.9
41-41.9							2.02	1.78													41-41.9
42-42.9							2.08	1.84													42-42.9

F. O. B. Ship

KETTLEMAN HILLS*	
35-39.9	$1.10
40-44.9	1.20
45-45.9	1.35
50-54.9	1.50
55 and above	1.65

*Posted by Union Oil Company.

(See page 172)

MELLOWED A HUNDRED MILLION YEARS

While scaly monsters fought in PENNSYLVANIA

Here's another of the photographs that illustrate the most sensational advertising campaign ever put behind a motor oil. Look for this striking series on Sinclair Mobiline in the national magazines, newspapers and rotogravure pages of Sunday newspapers in your section.

Get ready to supply the demand for Mobiline—the finest Pennsylvania grade oil of them all. We'll furnish you with colorful banners, pennants and posters that are bound to get attention and bring business to your station.

On the Radio—Sinclair is on the air in a nation-wide hook-up Monday and Friday evening. Tune in and get your share of fun out of Phil Baker, Shaw and Lee—internationally famous comedians in the Sinclair laugh-hit "GOING PLACES".

Here are three new business-getting salesmen for every Sinclair dealer!

Sinclair Refining Company (Inc.), New York, Atlanta, Chicago, Houston, Fort Worth, Kansas City. Sinclair Refining Company of Canada, Ltd., Toronto. Sinclair Refining Company of California, Los Angeles.

SINCLAIR MOBILINE

Reg. U. S. Pat. Off. 1905

Pennsylvania MOTOR OIL

Made in the newest, largest single refinery using PENNSYLVANIA grade crude exclusively.

guaranteed by SINCLAIR REFINING CO. INC. to be 100% pure PENNSYLVANIA GRADE OIL

35¢ *per quart*

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CRUDE OIL PRICE QUOTATIONS (*Continued from Page 170*)

33 to 33.9 gravity	.92
34 to 34.9 gravity	.95
35 to 35.9 gravity	.98
36 and above	1.01

Magnolia Petroleum Company posts in Crane, Upton and Winkler Counties. Southern Crude Oil Purchasing Company posts only in Crane, Upton and Winkler Counties.

HOWARD AND GLASSCOCK COUNTY CRUDE

(Effective April 10, 1930)

Below 25 gravity	$ .65
25 to 25.9 gravity	.68
26 to 26.9 gravity	.71
27 to 27.9 gravity	.74
28 to 28.9 gravity	.76
29 to 29.9 gravity	.78
30 to 30.9 gravity	.80
31 to 31.9 gravity	.82
32 to 32.9 gravity	.84
33 to 33.9 gravity	.86
34 to 34.9 gravity	.88
35 to 35.9 gravity	.90
36 and above	.92

MARKHAM

The Texas Company

(Effective April 11, 1930)

All grades	$ .85

CORSICANA HEAVY

All grades	$ .80

SALT FLAT AND DARST CREEK

All grades	$1.15

SOUTH TEXAS

Mirando	$ .85
Luling	.85

NORTH AND CENTRAL TEXAS

(Effective April 10, 1930)

Ranger, North Texas, Mexia, Powell, Richland, Wortham, Currie, Moran, Nocona, Lytton Springs, and Van*

Below 25 gravity	$ .72
25 to 25.9 gravity	.77
26 to 26.9 gravity	.82
27 to 27.9 gravity	.87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 and above	1.57

*Pure Oil Company, July 9, 1930.

GULF COAST

(Effective April 10, 1930)

Grade "A" all companies	$1.15

Grade "B"

Below 25 gravity	$1.00
25 to 25.9 gravity	1.03
26 to 26.9 gravity	1.06
27 to 27.9 gravity	1.09
28 to 28.9 gravity	1.12
29 to 29.9 gravity	1.15
30 to 30.9 gravity	1.18
31 to 31.9 gravity	1.21
32 to 32.9 gravity	1.24
33 to 33.9 gravity	1.27
34 to 34.9 gravity	1.30
35 to 35.9 gravity	1.33
36 to 36.9 gravity	1.36
37 to 37.9 gravity	1.39
38 to 38.9 gravity	1.42
39 to 39.9 gravity	1.44
40 to 40.9 gravity	1.46
41 to 41.9 gravity	1.48
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.52
44 and above	1.54

CLASSIFICATIONS OF GULF COAST CRUDE

The Texas Company: GRADE A—Beaume gravity not over 26.0 degrees at 60 degrees Fahrenheit; sulphur not over 0.5 per cent; in distilling 500 cc. of the crude that part of the distillate cut between 65 per cent off and 85 per cent off shall have a pour test of zero or lower. GRADE B—All Gulf Coast heavy crudes which do not meet tests for Grade "A" or for Gulf Coast light.

Humble Oil & Refining Company: GRADE A—All crude conforming to the following tests: viscosity not less than 100 seconds Saybolt at 100 degrees Fahrenheit; sulphur not over .4 per cent; Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold tests of distillates having a viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit. GRADE B—Embraces all Coastal crude which does not meet the tests for "A" grade crude.

Gulf Pipe Line Company: GRADE A—Beaume gravity not over 24 at 60 degrees Fahrenheit; viscosity not less than 100 seconds universal Saybolt at 100 degrees Fahrenheit; and sulphur not over 0.4 per cent. The yield of 250 viscosity reduced distillate at 100 degrees Fahrenheit not less than 30 per cent, and this 30 per cent not heavier than 20 Beaume, and its pour test not above zero Fahrenheit. The reduced distillate to be secured by reducing the crude with fire and steam until the bottoms have a flash of not less than 540 degrees Fahrenheit, and not more than 560 degrees Fahrenheit open cup, and the entire distillate obtained in this way reduced to a distillate of 250 viscosity. The 10 per cent cut in the original distillate having an average viscosity of 500 seconds at 100 degrees Fahrenheit to have a pour test not higher than 5 degrees Fahrenheit. GRADE B—Embraces crude which does not meet test for "A" grade.

Sun Pipe Line Company: GRADE A—Viscosity not less than 100 seconds at 100 degrees Fahrenheit Saybolt. Sulphur not over .4 per cent. Beaume gravity not over 25 at 60 degrees Fahrenheit. Cold Test: of distillates having viscosity of 1000 seconds at 100 degrees Fahrenheit shall not be over 5 degrees Fahrenheit A. S. T. M. Method. GRADE B—All Coastal crudes which do not meet specifications for Grade A crude.

REFUGIO

(Effective April 10, 1930)

Below 25 gravity (heavy)	.85

REFUGIO (Light)

Same as Gulf Coast 25 gravity and above.

PETTUS

(Effective August 21, 1930)

All grades	$1.15

BRENHAM

(Effective March 1, 1930)

All grades	.95

STATE CRUDE PRODUCTION TAXES

Oklahoma—Three per cent of gross value, less royalty interest.

Texas—Two per cent of gross value.

Louisiana—From four to 11 cents a barrel, depending upon gravity.

Arkansas—2.6 per cent of gross market value.

Montana—Two per cent of gross value at well.

Wyoming and New Mexico—Production tax based upon state and county assessments.

California—.66443 mills per barrel of oil produced and 17.39 cents per acre on proved oil lands.

WYOMING-MONTANA

(Effective April 11, 1930)

Wyoming

Byron	$1.65
Ferris	1.60
Elk Basin	1.55
Grass Creek	1.55
Rock Creek	1.35
Lost Soldier	1.05
Lost Soldier	1.00
Lance Creek	1.63
Mule Creek	1.20
Notches	.65
Big Muddy	1.38
Osage	1.63
Hamilton Dome	.85
Pilot Butte	1.58
Torchlight-Greybull	1.65
Lander	.80
Rex Lake	1.10
South Casper Creek-Poison Spider	1.00

SALT CREEK

Midwest Refining Company

29 to 29.9 gravity	1.00
30 to 30.9 gravity	1.05
31 to 31.9 gravity	1.10
32 to 32.9 gravity	1.15
33 to 33.9 gravity	1.185
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 and above	1.325

MONTANA

(Effective Feb. 15, 1930)

Sunburst	$1.65
Cat Creek	1.55
Lake Basin	2.20

NEW MEXICO

(Effective April 11, 1930)

Artesia	1.05
Hog Back	1.40
Maljamar	.92
Jal and Lea	*

(*) West Texas price scale used by The Texas Company and Humble Oil & Refining Co.

CANADA

(Effective June 28, 1930)

Oil Springs	1.95
Petrolia	2.02

LOUISIANA-ARKANSAS

(Effective April 11, 1930)

Homer, Haynesville, Caddo, El Dorado, DeSoto and Crichton and Cotton Valley*

Below 28 gravity	$ .87
28 to 28.9 gravity	.92
29 to 29.9 gravity	.97
30 to 30.9 gravity	1.02
31 to 31.9 gravity	1.07
32 to 32.9 gravity	1.12
33 to 33.9 gravity	1.17
34 to 34.9 gravity	1.22
35 to 35.9 gravity	1.255
36 to 36.9 gravity	1.29
37 to 37.9 gravity	1.325
38 to 38.9 gravity	1.36
39 to 39.9 gravity	1.395
40 to 40.9 gravity	1.43
41 to 41.9 gravity	1.465
42 to 42.9 gravity	1.50
43 to 43.9 gravity	1.535
44 gravity and above	1.57

*Shreveport-Eldorado's postings stop at above 40 gravity.

The posting on Cotton Valley is same as Caddo. From 36 to 52 and above the regular gravity schedule is followed.

The Texas Company pays North Texas gravity scale in North Louisiana.

STEPHENS

Below 28 gravity	$ .76
28 to 28.9 gravity	.81
29 to 29.9 gravity	.86
30 to 30.9 gravity	.91
31 to 31.9 gravity	.96
32 gravity and above	1.01

SMACKOVER

Below 24 gravity	$ .90
24 and above	1.05

DON'T DO THIS

"Pull Your Tubing Dry by Pulling It Empty!"

with the GRANGER TUBING BLEEDER

NOT "just another tool", but a piece of permanent equipment you will want to install in every well before you put it on the beam.

See it Demonstrated in BOOTH 64, TEXAS BUILDING

Equally effective with every type of pump. Prevents caving, protects formation and insures cleaner oil by perfect control of rate of drainage. Flushes gorged rigid-type standing valves without pulling out. Prevents damage or reversal of leather pump cups. Locks and unlocks in the well, but cannot open accidentally. Automatic in action; positive in performance. Saves power. Made to outlast the well and pay for itself many times over. Any pumping crew can install and operate it.

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MID-CONTINENT BRANCH:
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R. L. MELTON, *Mgr.*

GRANGER INDICATOR CO., Dept. OW.
137 N. Greenleaf St., Whittier, Calif.

Without obligation on my part, please send me full information about the Granger Tubing Bleeder.

Name .....

Position .....

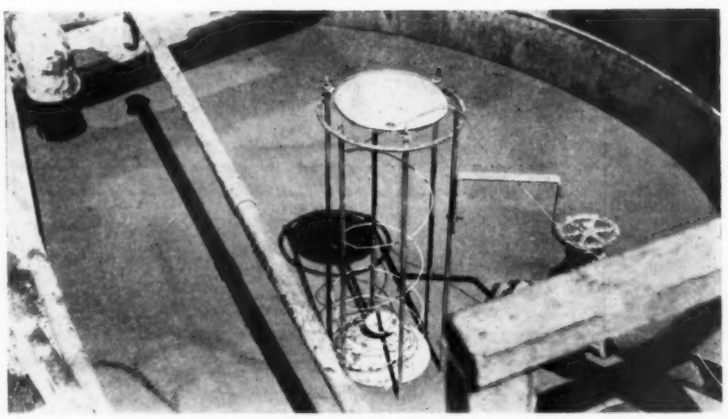
Company .....

Address .....

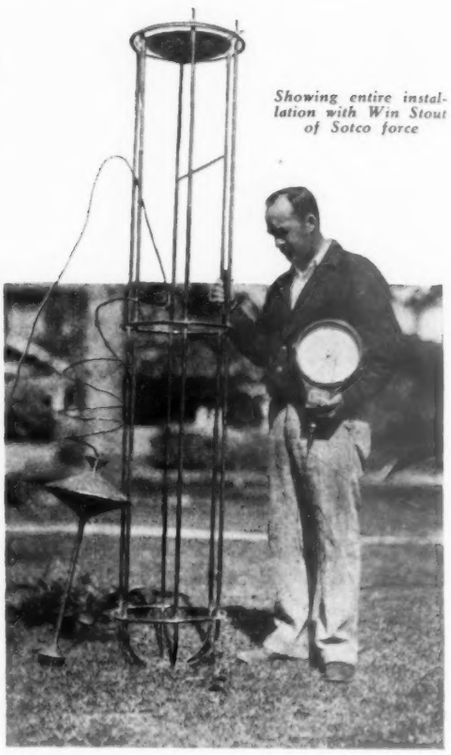
ANNOUNCING THE NEW

SOTCO

MUD WEIGHT RECORDER



Sotco Mud Weight Recorder installed in suction pit on a Kettleman Hills, Calif., well



Showing entire installation with Win Stout of Sotco force

—a Great Aid in Setting Pipe, Coring and Ordinary Drilling Operations

This new device continuously indicates and records the weight of your drilling mud with a degree of accuracy closer than one pound per cubic foot — between the weights of 50 and 110 pounds of mud. It gives a permanent record of mud conditions for future reference—it warns the driller of gas cutting and of high sand content in the mud—and it enables the driller to keep his mud accurately at any predetermined weight.

Simple—Rugged—Accurate—Thoroughly Field Tested

The Sotco Mud Weight Recorder has a minimum number of working parts. It consists of a pressure element and a recording element. It may be placed in the well suction pit; in the storage tanks; or may be used in reclamation or central distributing plants. Can be installed in a few minutes and needs no special supports.

Write for complete information and performance records

OTHER SOTCO PRODUCTS

SOTCO Hydraulic Knuckles (Dog Leg)
SOTCO Hydraulic Wall Hooks
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SOTCO Spiral Fishing Tool Guides
SOTCO Combination Trip Packoff Overshots (Socket)
SOTCO Differential Oil Well Pumps
SOTCO Differential Plunger Assemblies
SOTCO Improved Wire Line Control
SOTCO Wigle Control Heads
SOTCO Wigle Circulating Heads
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PERSONAL MENTION-MEN YOU KNOW

A. H. Weisgerber, resigned, effective September 1, as Secretary-treasurer of Andian National Corporation Limited, Toronto, and on the same date, entered the service of Ajax Pipe Line Company with headquarters in Tulsa, Oklahoma. H. A. Burgon, assistant secretary-treasurer of Andian National Corporation Limited, was appointed secretary-treasurer, effective September 1.

William B. McCormick, pioneer oil operator in Caddo Parish, Louisiana, who was interested in the first well drilled in the old Pine Island field, is critically ill in a Shreveport hospital.

Ben Nash, scout for Houston Oil Company in the Shreveport territory, is convalescing from injuries sustained recently when his automobile overturned near Natchitoches, Louisiana. A defective steering gear was blamed for the accident.

Geo. Calvert, member of the producing firm of Broderick & Calvert with headquarters at Fort Worth, Texas, departed late last week on a vacation trip to Canada.

M. J. Norrell, former manager of the Dallas Chamber of Commerce and more recently president of Texas Bank & Trust Company, Dallas, resigned from the later position October 1 to become director of publicity for Magnolia Petroleum Company.

H. M. Dawes, president, Pure Oil Company, Chicago, made an inspection of the company's large holdings in the Van field, Texas, late last week.

L. P. Maier, formerly chief engineer during construction of the Andian Pipe Line in Colombia, was transferred to the executive office in 1928 and assigned duties as assistant to the president. On July 15, 1929, Mr. Maier was elected a director of the company, and at a meeting of the directors September 26, 1930, was elected a vice president.

R. L. Eckerty, assistant in the office of J. A. Bermingham, vice president of The Texas Company of California at Los Angeles, is recovering from a serious illness.

William McLane, who is connected with Texas Pipe Line Company at Breckenridge, Texas, recently returned to Texas following an extended trip to California points.

Isaas D. Loftus, field superintendent for Pacific Western Oil Company at Elwood, shot and killed himself September 24, following a long period of ill health.

Floyd Bryant, formerly superintendent of titles for Standard Oil Company of California in the main office at San Francisco, has been made assistant manager of land and leasing department in the Los Angeles office. George Schroeder has been made superintendent of titles to succeed Bryant.

VALENTIN R. GARFIAS
Manager Foreign Oil Department, Henry L. Doherty & Company, New York.

Mr. Garfias' estimates of world production, issued in October, are of interest. Last year his estimate was 1,467,000,000 barrels and final figures by the United States Bureau of Mines, recently issued, show 1,484,451,000 barrels. His estimate for 1930 appears on page 64.

David Frame has been promoted by Humble Oil & Refining Company to be general superintendent of the northern division of the production department, succeeding H. L. Edwards, resigned. Mr. Frame was formerly superintendent in West Texas with headquarters at McCamey. Mr. Edwards is to be associated with J. E. Mabee in well contracting in West Texas and New Mexico.

R. S. Ellison, vice president and general manager of Midwest Refining Company with Casper headquarters, has been promoted to the presidency of the newly-organized Stanolind Crude Oil Purchasing Company and will probably become an executive official of the new Stanolind Pipe Line Company of which he is now a director. Mr. Ellison has lived in Casper since July, 1919, and has supervised the greater part of the development of the Salt Creek field and other districts where Midwest Refining Company has been active. His promotion comes as a reward for long and faithful service to his company, the community of Casper and the State of Wyoming.

Ray Lyman Wilbur, Secretary of the Interior, has returned to Washington, following an extended visit to California.

S. C. Stathers, chief geologist for Standard Oil Company of Louisiana, was elected president of the Shreveport Geological Society, at the annual election of the society held here Friday, October 3. Mr. Stathers succeeds M. W. Grimm of Tidal Oil Company, as president. Other officers elected for the ensuing year are: C. L. Moody, Ohio Oil Company, vice-president; and George Schneider, The Texas Company, secretary-treasurer. The society embraces the petroleum geologists in North Louisiana, South Arkansas and East Texas.

N. H. Darton of the United States Geological Survey spoke October 4, before the Houston Geological Society at Houston, telling of progress on the geological map of Texas which he is compiling, and which is almost completed. In the past he compiled geological maps of Arizona and New Mexico.

R. S. Ellison, vice president of Midwest Refining Company in charge of production, has been named president of Stanolind Crude Oil Purchasing Company and a director of Stanolind Pipe Line Company. These two names have been given to the concerns which the Standard Oil Company of Indiana bought from the Sinclair Consolidated Oil Corporation in September. Mr. Ellison will have headquarters in Tulsa and the announcement of his change carried the intimation that he would serve in other executive capacities of the Standard. H. L. Phillips, president of Sinclair Crude Oil Purchasing Company, has resigned and will remain with the Sinclair organization.

The fall meeting of the Oil & Gas Well Supply Traffic Association will be held October 21 and 22 at the Palmer House, Chicago, according to an announcement by V. E. Milsark, secretary. This association has as members the principal manufacturers of oil well outfits and supplies in the country. Those eligible for membership and not members of the association, are especially urged to attend.

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...Everywhere
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EVERY thinking oil well operator is on guard against possible fire or blowout. Gas and water pressures must be controlled. The high specific gravity of BAROID makes it the ideal weighting material of oil well drilling fluids.

OIL WELL ENGINEERS ADVISE

A drilling fluid has a number of important functions to perform in connection with the drilling and satisfactory completion of oil wells.

The only way to maintain good performance and minimize the dangers of fire, blowouts, and other troubles, is by using BAROID, the ideal mud laden fluid. It walls up the hole, lubricates the casing, drill pipe and bit, and insures safer, speedier and more economical drilling.

Peden Co. is distributing agent for BAROID in Texas, Louisiana, New Mexico and Mississippi. Order from agents nearest you. Shipments F. O. B. Factory, $35.00 per ton.

OIL WELL SUPPLIES

Ample stocks of BAROID are maintained at the following points. Write, 'phone or wire point nearest you.

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Peden Co., San Antonio, Texas
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Peden Co., Shreveport, Louisiana
Peden Co., Zwolle, Louisiana
South Texas Lumber Co., Hempstead, Texas
Pickering Lumber Co., Hobbs, New Mexico
Stahlman Lumber Co., Hobbs, New Mexico
Pickering Lumber Co., Wink, Texas
Stahlman Lumber Co., Wink, Texas
Pickering Lumber Co., McCamey, Texas

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QUICK SERVICE

Complete Stocks of the following on hand:

National A. P. I. Seamless Pipe
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Interior Upset Drill Pipe
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Spencer Sauer Lumber Co., Bellville, Texas
Zarsky Lumber Co., Refugio, Texas
Eagle Lumber & Supply Co., Jackson, Miss.
Murray Brooks Hardware Co., Lake Charles, La.
Murray Brooks Hardware Co., Sulphur, La.
Slagle Johnson Lumber Co., Monroe, La.
E. L. Wilson Hardware Co., Beaumont, Texas
Bovaird Supply Co., Borger, Texas
Dayton Lumber Co., Dayton, Texas
G. W. Hunt Lumber Co., Humble, Texas
Doucette Lumber Co., Hull, Texas

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HOUSTON — SAN ANTONIO — BEAUMONT — SHREVEPORT

Oklahoma--Kansas Field Notes

FLOYD L. SWINDELL, *Staff Representative, Tulsa, Oklahoma*

Carr City Most Promising Area in Greater Seminole

TULSA.—The Carr City sector gives promise of being the most active area in the Greater Seminole district during the next few months. Amerada Petroleum Corporation's Tiger 1 NW NE SW Section 3-8n-5e, had the top of the Wilcox at 4124 feet and at a total depth of 4140 feet, produced 1015 barrels in 17 hours on gas lift. The well was shot with 10 quarts from 4080 to 4100 feet in the Simpson and swabbed 120 barrels while the shot was in the hole. Operators are now cleaning out and planning on shooting the Wilcox between 4124 and 4140 feet. Completion of this test extends production a considerable distance to the northwest of the Carr City pool and has prompted the announcement of nine new locations in the vicinity.

Amerada Petroleum Corporation's Morris 1 SE SW NW Section 29-9n-6e, which was reported last week as running 94 feet structurally lower than the Amerada-Dixie's Chase 1, southeast offset and discovery well in the new pool, is finding the formations below the Mayes lime considerably thinner than in the discovery well and is now showing indications of being high enough to make a producer.

General belief that development in the Konawa pool had reached a climax with approximately 100 producing wells, may be revised on the basis of Magnolia Petroleum Company's Wood 1 NEc SW Section 29-6n-6e, which produced 913 barrels in six hours from the sand at 2800 to 2803 feet. During the week it was drilled to 2810 feet where it produced 506 barrels in two hours and 50 minutes and at 2813 feet, gauged 2854 barrels in 19 hours. This well is on the extreme south end of the pool, the third location east of the same company's Suthoy 1, which was a dry hole at 4215 feet and approximately 1760 feet northwest of the same company's A. Harjo 1, which was dry at 3590 feet. Production is believed to be coming from a stray sand which has been found in the pool to the north. Magnolia Petroleum Company has announced the location of Wood 2 SE SE SW fourth location south of the Wood 1. This should be an exceptionally interesting test due to the fact that it will be located south of what has been thought to be the southern limit of the pool.

Prairie Oil & Gas Company's Abel 1 CSW NE Section 10-9n-8e, had a hole full of water at 4400 feet and was drilling ahead. On September 27, the hole filled 3000 feet with oil from a sand at 3454 to 4356 feet, and, after swabbing one barrel an hour for several hours, the oil was exhausted and no further showing has been found.

Eason Oil Company's Katschor 1 CSW NE SW Section 34-17n-4w, approximately nine miles northwest of Guthrie in Logan County, which cored one foot of saturated sand between 4919 and 4942 feet, has set 8¼-inch casing on top of the Layton at 4918 feet.

Northwestern Oklahoma

Sinclair Oil & Gas Company's L. E. Howell 1 CSW SW Section 14-26n-24w, Harper County, about three miles south of Stockholm, gauged 15,000,000 feet of gas and 65 barrels of gasoline in 12 hours at last report. This well was originally drilled to 8583 feet, making it the deepest test in that part of the state. It was plugged back to 5340 feet where the casing was shot, resulting in a gas flow estimated at 7,000,000 cubic feet and a show of gasoline. Although nothing definite is known, the sand from which production is coming is believed to be between 5370 and 5425 feet. The hole has been plugged back by stages to 5425 feet. In the southeastern part of the county, approximately 28 miles southeast of the Sinclair Oil & Gas Company, Howell, Empire Oil & Refining Company is drilling below 6650 feet in its Bruce 1 SW NE NE SW Section 12-25n-20w.

Argus Production Company's Fee 1 CSW Section 36-5n-14e, Cimarron meridian, is reported as having an estimated 5,000,000 feet of gas at 2760 feet and a show of oil at 2800

World's Largest High Gravity Well at Oklahoma City

OKLAHOMA CITY.—The world's largest high gravity oil well was brought in October 4 when Oil Incorporated's Ross 1, SE NW NW Section 2-11n-3w, came in at total depth of 6547 feet in the Wilcox sand. During a test the well flowed 5435 barrels in two hours and 20 minutes. Again Monday, October 6 it was tested for 18 minutes and flowed 1824 barrels, or at the rate of 100 barrels a minute, or 144,000 barrels over a 24-hour period.

Announcement of new locations in the Oklahoma City pool are being reported at the rate of 10 or 15 per week with completions at about the same number due principally to location of Wilcox sand in the northwestern part of the field and the exceptionally large wells completed in this member of the Simpson formation. Hall and Briscoe's Mueller 1, SW SE NW Section 2-11n-3w, made a flow of 2260 barrels during the first hour and 30 minutes and gauged 125,000,000 cubic feet of gas. Detrital material and broken sand were topped at 6227 feet and total depth is 6545 feet. Until recently many operators were setting 6⅝-inch casing well into the Detrital or upper Simpson horizons in order to shut off part of the upper gas production which has so seriously handicapped successful completion of wells.

With few exceptions this string is now being set above the so-called Detrital or only a few feet into it, the general belief being that gas pressures have declined to the extent that in most parts of the field all available gas is necessary for flowing the wells.

Activities have shifted to the northwestern part of the field largely in Sections 2, 3, 10, and 15, and very little work is being done in the southern and central parts. Three wells, any one of which would extend production approximately a half-mile are drilling off of the northwest end of the pool. Indian State Oil Company's No. 1 NE NW SW Section 35-12n-3w; Phillips Petroleum Company's Walnut Grove 1 NE NE NW Section 3-11n-3w; and the same company's McBeth 1 NW SW SE Section 3-11n-3w, encircle this end of the pool and are far enough out from production to do much toward defining the extent of Wilcox production in this direction. All of these tests should be completed within the next 60 days.

feet. The well is located approximately one mile west of the town of Ponycreek and 12 miles south of the Hugoton Gas field proper. Several wells in the gas field have had water in a sand directly below the gas horizons and the presence of oil below the gas in the Fee 1 may indicate that it is structurally separated from the main field but on the same regional high. The possibility of oil production in the general area has attracted several of the major companies who have large blocks of acreage.

Magnolia Petroleum Company and Ramsey Petroleum Corporation's School Land 1 CSW NE Section 27-5n-5e, Cimarron County, is drilling below 4540 feet. This is the most westerly location in Oklahoma and scheduled to test for deep production.

Southern Oklahoma

J. H. Hudson et al's Fulton 1 NW SE SW Section 28-4s-2w, three-quarters of a mile southwest of production in the old Hewitt field, is shut down preparatory to plugging and abandoning. This is one of the few wells drilled to 6000 feet in that part of the state and the only well in which the Simpson formation has been definitely recognized at any appreciable distance away from the outcrop. It was plugged back to test sands between 3690 and 4000 feet but failed to show.

Grant and Garvin's Mitchell 1 NE NW NW Section 30-1s-2w, new producer on the southeast end in the Tatums pool, started flowing early Saturday morning, October 4, and is estimated at 100 barrels an hour. The well was shut in for lack of storage without having been given an initial gauge. Production is coming from a series of sands between 1995 and 2155 feet. M. G. R. Oil Company's Mitchell 1 NW SE SE Section 24-1s-3w, produced 651 barrels during its first 18-hour gauge from a solid sand logged between 2240 and 2365 feet. This is the greatest thickness of solid sand so far encountered in the Tatums pool and the well did not come up to the production expectations of those who had watched it. Same company is rigging up Mitchell 2 SE SE SE Section 24-1s-3w, southeast offset to their Mitchell 1. Vernon, Hale, and Hudson's Sontine 1 NW SW SW Section 10-1s-2w, north offset to Gant and Garvin's Meeks 1, which recently extended the pool, is pulling liner preparatory to shooting the sand between 2125 and 2281 feet. It was tested Friday, October 3, but made only about a bailer an hour whereas the extension well offsetting it produced 130 barrels during its first 24-hour gauge. C. L. Anderson's Eaves 4 NE NE SW Section 24-1s-3w, produced approximately 2600 barrels during its initial 24-hour gauge from 160 feet of sand logged between 2272 and 2443 feet.

Prairie Oil & Gas Company and T. B. Slick interests' Perkinson 1 SW SW NW Section 27-7n-2w, 6½ miles northwest of Purcell in McClain County, is drilling below 1340 feet in Red beds. This test is located on a block of approximately 6500 acres of leases owned by Prairie Oil & Gas Company, T. B. Slick interests, Mid-Continent Petroleum Corporation, and Gypsy Oil Company. It is scheduled to drill 7000 feet if necessary for a conclusive test. Red beds to a depth of approximately 3000 feet have been encountered in a test about 12 miles south. No oil or gas have been found in commercial quantities in the area.

Essley Made Receiver for Superior Oil

Tulsa.—John L. Essley has been appointed federal receiver for Superior Oil Corporation by Judge Franklin E. Kennamer. John Rogers was named receiver by the state court several weeks ago. The petition before the Federal Court brought the federal receiver, as the judge said he felt the affairs demanded a federal receiver, although he did not want to interfere with the activities of the state receiver.

Proration Plan Gives Oklahoma 130,000 Barrels Daily
(*Continued from page 55*)

ators' committee, fix the percentage of proration from time to time as found necessary to conform the permitted production to the market outlet. The committee estimated an outlet of approximately 130,000 barrels per day for that field based upon committments of purchasing companies, and subject to fluctuations up or down which may occur either through unforseen increases in market demand or partial failures therein and depending somewhat upon the co-operation of purchasers and producers in exchanging pipe line connections in other pools so as to transfer purchasing power to Oklahoma City. According to the schedule herewith presented, the market outlet would be 131,095 in October, 134,589 in November and 131,003 in December.

"It is recommended that the commission be requested to so frame its general order that by ancillary order it may permit the operators in any pool to change the method of curtailment from the time basis to the percentage-of-daily-production basis or vice-versa when it is deemed necessary to do so for any reason including the avoidance of shortages and overages in the administration of the order. And also to permit the umpire and operators' committee to temporarily reduce the allowable percentage for the field, under supervision of the commission, to allow producers who may be under-produced to catch up with their respective quotas.

"It is also recommended that the general order emphasize the right of each producer to go before the commission and to complain of or criticize the administration of the order and to have his case heard and, if possible, any irregularity corrected by ancillary order. In this connection it is recommended that the operators' committees be enlarged by the addition to them of representatives of the pipe lines so that the umpire will be assisted in securing and allocating pipe line connections within the pool and in avoiding discrimination and injustice in that regard.

"The general provisions of existing orders with respect to delay time on newly completed wells should be continued in the new order for the fourth quarter."

A. S. M. E. Chooses Officers for 1931

Tulsa.—The American Society of Mechanical Engineers, now in session in the auditorium of the International Exposition, has announced the election of the following officers who will serve the society for 1931:

President, Roy V. Wright, managing editor of Railway Age, New York; vice president, William A. Hanley, chief engineer, Eli Lilly Company, Indianapolis; Thomas R. Weymouth, president Oklahoma Natural Gas Company, Tulsa; and Harvey N. Davis, president Stevens Institute of Technology, Hoboken, New Jersey. Managers are W. L. Batt, president SKF Industries Inc., New York; H. L. Doolittle, chief engineer Southern California Edison Company, Los Angeles; and H. L. Whittemore, chief of engineering, mechanics section, Bureau of Standards, Washington, D. C.

The Tulsa meeting convened Monday morning, October 6 and extended through Tuesday and Wednesday, with a number of highly interesting papers on mechanics applied to the oil industry. Members also had the opportunity of inspecting and studying one of the largest assemblies of the oil field equipment ever brought together for exhibition.

North and West Texas Field Notes

H. H. KING, *Staff Representative, Fort Worth, Texas*

Crane County Producer Ushers in West Texas Field

SAN ANGELO, Texas.—Discovery of a productive area in western Crane County from the deep lime horizon by Cranfill Brothers Oil Company and Gulf Production Company ushers in a new high gravity oil field for the West Texas district. This strike is particularly important for the reason that it found oil and gas production after passing up several sulphur water horizons in the main lime body, while heretofore most operators have been content to abandon their wildcats in the district after encountering sulphur water in the Permian dolomite.

Gas production estimated at more than 10,000,000 cubic feet daily and a heavy flow of oil testing 38 gravity was encountered by this Crane County wildcat about midnight October 6 from porous lime at 4285 to 4295 feet. The control head was closed promptly, and when opened at dawn the well flowed about 100 barrels oil in five minutes, according to members of the crew. This brief flow was lost in the sand, and can not be used as a barometer in estimating the potential production. Indications are that a big well is assured.

The Tubbs ranch is the site of this wildcat strike, and because of the shifting sand dunes the area is one of the most inaccessible places to reach by auto in the entire district. The well is located near the center of the east line of Section 8, Block "B" 27, Public School Land Survey, and is on one of the three sections that the two companies own on a 50-50 basis, with Gulf Production Company in charge of operations. The latter company acquired one-half interest in the three sections from Cranfill Brothers Oil Company for an unnamed cash consideration, which was applied against the drilling of a 3500-foot test. Disney & Gholson fulfilled this contract, then Gulf Production Company took over the rig to try for deeper production after passing up showings of oil, gas and sulphur water in the upper sections of the lime.

Tankage Ordered

Tankage and a gas separator have been ordered erected at the Tubbs well, and plans are to make an open flow test of the production late this week.

Gulf Pipe Line Company has a 10-inch trunk line located about 14 miles north of the producer, and can provide transportation facilities promptly. Monahans is the nearest railroad point, while the Shipley pool, located about 12 miles to the southwest, is the closest oil production.

Undaunted by the apparent failure of the Tubbs ranch test, Cranfill Brothers Oil Company recently promoted a second test about 2½ miles to the south, and early this week was drilling lime at 2430 feet. This new test is being drilled on the Muir land, being in the northeast corner of the west one-half of Section 23, which was donated by Pure Oil Company to get a test drilled. Cranfill Brothers Oil Company sold a one-quarter interest in the site and well to Atlantic Oil Producing Company.

Muir 1 encountered top of white lime at 2330 feet, or about 95 feet higher structurally than the Tubbs well, which logged white lime at 2455 feet, with a surface elevation of 2526 feet. This western Crane County discovery finds Gulf Production Company in control of the bulk of the possible oil area, but small leases on the north of the discovery block probably will force considerable drilling.

Humble Oil & Refining Company has lease on six solid sections that adjoin or corner the three-section discovery block.

Guhrman Petroleum Corporation's wildcat well on the Ford ranch in southern Andrews County has failed to encounter any appreciable increase in oil and gas production after drilling to 4425 feet. This well cased off 30,000,000 feet gas at 4680 feet, and began showing oil at 4290 feet. Oil production is rated at about 50 barrels daily flowing by heads.

World's Second Deepest Oil Well Completed at Big Lake

SAN ANGELO, Texas.—Completion of the second deepest oil and gas producer in the world was credited to the Big Lake field late last week when the Big Lake Oil Company's University 4-C blew in with a greater initial output than scored by the other six record depth wells on nearby locations. University 4-C became the largest producer of the group during the second full 24-hour gauge through having flowed 2937 barrels of 58 gravity oil and 55,349,000 cubic feet of wet gas at a total depth of 8697 feet in lime formation. The well was brought in with rotary equipment on the afternoon of October 3, and produced 1187 barrels of oil and 32,610,000 cubic feet of gas during following 10¾ hours, with 300 pounds back pressure applied part of the time. The well flowed 2748 barrels oil and 57,800,000 cubic feet of gas during 24-hour period ending 7 a. m. October 4, with 225 pounds back pressure.

The seven deep wells produced 13,588 barrels of 58 gravity oil and 165,912,000 cubic feet of gas during the 24-hour period ending 7 a. m. October 6, with total depths ranging from 8489 to 8923 feet, while the back pressure varied from 165 to 750 pounds on each producer in order to lower the gas-oil ratio and attempt to restrict production. Group One Oil Corporation's (Continental Oil Company) three completed wells contributed 6,570 barrels oil and 68,004,000 cubic feet of gas to the above production. The above two companies are the sole operators in the field, and have a contract to sell 20,000 barrels oil daily from their leases during the life of the field. Humble Oil & Refining Company is contracted to take and purchase a maximum of 20,000 barrels daily from the deep and shallow wells until April 1, 1940, paying average Mid-Continent gravity scale prices, plus a field gathering charge. The deep wells increase the gravity of all oil produced in the field above 44 degrees.

Renewed efforts are being waged by the two operating companies to reduce the gas consumption from the deep wells, and also to utilize this gas, which has been wasted except for the extraction of about 75,000 gallons of natural gasoline daily by three plants. Introduction of the residue gas into shallow oil horizons in the field will be attempted immediately by both operators, while negotiations are pending for the construction of one or more gas lines to distant industrial plants. Installation of tubing in a few of the wells is also to be tried so as to lower the gas-

oil ratio, since application of heavy gas pressure has not accomplished the desired results.

Big Lake Oil Company's University 4-C is located near the center of the NE Section 1, Block 2, and is the furthest west of the deep wells. No failures have been charged against this deep horizon, and three other projected deep tests in the field, including a semi-wildcat to the west, have passed the 4000-foot level. Rotary equipment has proven to be the most economical and efficient in making these deep holes.

Production from the seven deep wells for the 24-hour period ending 7 a. m. October 6, is listed below:

	Oil Production	Gas Production	Pounds Back Pressure	Total Depth
Group One Oil Corporation—				
University 1-B ...	2,785	25,861,000	165	8,523
University 2-B ...	2,055	22,742,000	750	8,489
University 3-B ...	1,730	19,401,000	600	8,633
Big Lake Oil Company—				
University 1-C ...	1,307	10,702,000	450	8,668
University 2-C ...	2,585	29,747,000	750	8,603
University 3-C ...	189	2,110,000	350	8,923
University 4-C ...	2,937	55,349,000	225	8,697

Wildcat Well Establishes Production in Rusk County

TYLER, Texas.—High gravity oil production in commercial quantities has been developed by C. M. Joiner and associates from the Woodbine sand formation as result of more than three years of wildcat drilling on a single site in the northwestern part of Rusk County. This wildcat producer established a new oil area in Central East Texas when it began flowing by heads on the night of October 3, with an estimated production of 300 barrels daily from broken sand at 3536-3592 feet, and is the first strike made in the district since the discovery of the Van field on October 14, 1929, although more than 50 wildcats have been completed during the interval between discoveries. Joiner et al's producer is located about 40 miles southeast of the prolific Van field, and about the same distance northeast Boggy Creek.

Joiner and associates scored their producer on the Mrs. Daisy Bradford 975-acre farm after skidding the rotary rig twice because of junked holes at 1290 feet on the first test, and at 2546 feet on Bradford 2. This development work has been under way for more than three years, with frequent shut-downs necessary for lack of funds. The promoters of the project have been forced to part with a large portion of their original block of leases, and also interests in the drilling site and well. This trading of leases and interests, or units in the drilling test for supplies, labor and cash has resulted in lease titles becoming badly complicated. A vast amount of legal work will be required to cure titles on the bulk of the close in acreage.

Preliminary bid for an oil producer was made by Joiner et al's Bradford 3, which is located near the north line of the farm and about the center of the Juan Ximinez Survey, when a drill stem test of the broken sand at 3536-92 feet was taken on the night of September 5. The well made a brief flow of oil through the stem on this test, and further testing was halted to await the landing of a string of 6⅝-inch casing, which was cemented at 3488 feet. A liner was set on bottom. Considerable trading in leases and royalties took place after this preliminary test in the general vicinity of the drilling site, including some deals that carry prompt drilling obligations.

Probably a half dozen tests will be drilling in the Joiner area within 30 days. C. Rosenfield, Fort Worth operator, and associates were scheduled to start drilling early this week in the northwest corner of the E. L. Pinkston 77-acre tract, Marie Pena Survey. This test is south of the producer. R. H. Dearing & Sons, Dallas drilling contractor, and associates assumed a drilling obligation in obtaining lease on a five-acre tract near the producer, while Abe Goodman and associates are reported to be planning to drill on the L. M. Mays 115-acre farm, W. Brown Survey.

Importance of Rusk County's first oil area is a matter of guess work. The oil tests 37.3 gravity at 66 degrees temperature, and compares favorably with that produced from the Woodbine sand formation in the eight established fields in Central East Texas. The latter group has yielded approximately 235,000,000 barrels of oil since the discovery of the Mexia field in November, 1920. Van field has contributed about 5,500,000 barrels of the above total. The Woodbine sand horizon was generally believed to be virtually pinched out in the vicinity of Joiner et al's operations, based on logs of deep tests drilled previously in the general area. Geological work on the Joiner block was performed by A. D. Lloyd, Fort Worth geologist and oil producer.

Tubing is to be run on the Bradford well early this week, as only a small volume of gas production is accompanying the heads of oil, which totals about 150 barrels during the 24-hour period ending on the morning of October 6. No market outlet is available for the production at present, although a tank car rack and line will probably be built to make shipments on the I. & G. N. Railroad, situated within three miles.

Salt water was encountered early this week when Clem S. Clark-Benedum-Trees Oil Company's wildcat test on the Mrs. M. R. McCafflin farm, E. Blackburn Survey, made a test of the Blossom sand at 2686-2714 feet. This test is located in eastern Rusk County, and a diagonal offset to a failure drilled some years ago by Sinclair Oil & Gas Company.

Young County Operators Get Injunction Against Proration

FORT WORTH, Texas.—A second court attack against the Texas Railroad Commission's statewide proration order of August 14 was made October 4 when Young Brothers & Alexander, Wichita Falls operators, obtained a temporary injunction in District Court at Austin that restrains the commission from enforcing its order in respect to the operation of the above operators' oil properties in the New Castle field, Young County. Danciger Oil & Refining Company obtained a similar writ the week previous in connection with the operation of its Panhandle properties.

Proration leaders within the ranks of the oil producers and state authorities have taken preliminary steps towards contesting these injections, and any others that may later appear. A test case is to be made shortly. A conference between legal representatives of the proration group and officials of the Attorney General's Department was held in Austin October 4 to map a program of procedure.

Young Brothers & Alexander have a contract to sell their production to Primrose Refining Company, Wichita Falls, at 25 cents per barrel less than the posted price loaded aboard cars at a rack near New Castle. A short line was recently built to transport the oil to the rack. The New Castle field is served by only one trunk line, which is operated by Prairie Pipe Line Company, and production is limited to the marginal allowance, although potential output of the area is estimated between 10,000 and 12,000 barrels daily. Protests have recently been made by other operators in the area against Young Brothers & Alexander producing in excess of the proration allowance assigned the field, and court action had been threatened against the latter when they decided to apply for the temporary injunction.

New Drilling at Hobbs Cut to Minimum in Past Week

HOBBS, New Mexico.—New drilling activity in the Hobbs field has been cut to a minimum during the past two weeks. This lull in new development is reflecting a sharp decline in the volume of active tests credited to the area, and also reveals a lack of interest on the part of operators in making further efforts to extend and broaden the productive limits of the field. Slight shrinkage in the daily production allowance for the past three proration periods is having a discouraging effect on operators continuing an aggressive development program, as the field will only be allowed to produce 32,340 barrels daily, or 4.77 per cent of the estimated potential output of the 89 completed wells, during the October 1 to 15 period. The production allowance for the previous 15-day period was 33,250 barrels daily, and 33,935 barrels daily during the first one-half of September.

Estimated potential production of the field on October 1 was placed at 678,406 barrels daily, with 89 flowing and pumping wells scattered over 79 40-acre units. All wells in the field were given new open flow gauges by Umpire C. G. Staley in determining the above potential, and a greater number of the old wells registered increases than those that declined. Gypsy Oil Company's W. D. Grimes 3 carried off high honors for potential, having flowed at rate of 24,240 barrels daily, as compared to 21,972 barrels on the previous gauge. Midwest Refining Company's State 8, Section 4, ranks second with a potential of 23,458 barrels daily potential. The latter concern earned a daily allowance of 3,660 barrels for the new period from 16 wells that have a combined potential of 64,113 barrels.

Shell Petroleum Corporation leads on total potential, having 97,326 barrels daily from 15 wells, which are to be allowed a quota of 4,632 barrels daily. Amerada Petroleum Corporation ranks second in potential and allowance, with only eight wells, which have a combined potential of 82,328 barrels daily, and a proration allowance of 3703 barrels.

Continental Oil Company's State 3-A, an inside location in Section 29-18s-38e, set the pace on big production among recent completions added to the field during the past week, having flowed 930 barrels per hour on unofficial gauge, with daily gas flow estimated at 25,000,000 cubic feet. Total depth is 4208 feet. The above gauge was taken with the well flowing through two four-inch lines, and 80 pounds pressure on the separator. A larger flow line may be installed for a new gauge. On the same lease, State 2-A was flowing into pits while cleaning itself of drilling fluid on October 6. Continental Oil Company's State 3-B, Section 33-18s-38e, promises to make a big producer, as the lime formation has been exceedingly porous below 4000 feet, while the well blew out at 4017 feet. The production was killed by the Halliburton crew, and at 4125 feet was threatening to break loose again. State 2-B, one location west of the latter, encountered tight lime pay, and has been completed making 68½ barrels per hour at 4174 feet.

The California Company et al's McKinley 1, located near the center of the south line of the S½NW¼ Section 20-18s-38e, is running seven-inch pipe to cement above slight oil saturated core taken in brown lime formation at 4039-41 feet. This test is more than one-half mile east of the most northerly wells in the field, and is experiencing a sharp dip in the structure.

Tidal Oil Company's O. L. Coleman 1, a northeast extension well for the Lockhart-Meyer, or Eunice pool, increased its natural flow to 712 barrels during first 14 hours after being shot with 175 quarts at 3900-65 feet. This well gauged 1215 barrels during the next 24 hours, and 1150 barrels during the 24-hour period ending 7 a. m. October 6. It is located in the SWc NE Section 17-21s-36e, and had been previously shot after plugging back from water at 4147 feet to 3968 feet. All the production is being run by Texas Pipe Line Company on a common carrier basis. In the same area, Geo. F. Getty Oil Company's State 1, NEc Section 19-21s-36e, has been shut in for storage and market outlet after flowing 332 barrels natural during 12 hours at a total depth of 4000 feet.

Texas Fields Daily Potentials Show Continuous Increase

Fort Worth, Texas.—Estimated potential production figures on some of the most important fields and districts in Texas, as shown on the accompanying table, were compiled by umpires at the close of September for the October proration period, except in the Southwest district. Total potential for the state is showing a steady gain each month.

Yates field carries off high honors on potential, but actual gauges of old completions have not been taken in more than a year, except when such wells are deepened or worked over. While the potential of this field is unquestionably exaggerated, a contrast is offered at Van, where actual potentials are now taken twice monthly, flowing all wells via a single 11/16-inch choke. A reasonable potential of the Van area is believed to be about 750,000 barrels daily. Winkler County is credited with a potential of 158,185 barrels daily, and an allowance of 80,000 barrels daily, but is not believed to be capable of exceeding the latter figure should the wells be thrown open.

Proration Figures on Texas and New Mexico Fields

Fields—	No. Wells	Official Daily Pot'l Production	Maximum Daily Prod. Allowance	Percentage Pot'l Prod. Allowed
Texas Panhandle—				
Gray County	695	90,053	52,099	57.85
Hutchinson County	951	23,645	18,497	78.19
Carson County	233	11,296	7,943	70.32
Moore County	21	917	647	70.56
Wheeler County	43	814	695	85.38
Potter County	1	7	7	100.00
Total	1,944	126,732	79,888	63.04
West Texas—				
Yates	396	5,500,812	100,000	1.82
Winkler County	561	158,185	80,000	50.57
Howard-Glasscock Dist.—				
3300-ft. wells	95	17,640	8,052	45.65
2500-ft. wells	54	7,250	3,793	52.32
2200-ft. wells	64	54,262	17,084	31.48
1800-1300-ft. wells	297	8,059	4,457	55.30
Total	510	87,211	33,386	38.28
Crane-Upton	576	46,854	29,000	61.89
Ector County	67	33,307	7,700	23.12
Totals	2,110	5,826,369	250,086	4.29
Central East Texas—				
Van	128	251,718*	27,103	10.77
Southwest Texas—				
Darst Creek	165	156,222[1]	42,004	26.89
Chapman	80	42,088[2]	11,000	26.14
Salt Flat	320	21,180[3]	16,944	80.00
New Mexico				
Hobbs	89	678,406	32,340	4.77

*Potential through 11/16-inch choke.
[1]Gauged prior to August 14 to October 12 proration period.
[2]Gauged prior to August 12.
[3]Gauged prior to August 4 to November 4 proration period.

Gulf Coast and South Texas Fields

JACK LOGAN, *Staff Representative, Houston, Texas*

Humble Line from Pettus to Coast Starts Operating

HOUSTON.—Humble Pipe Line Company late last week began operation of its new oil line from the Pettus field to the coast by way of Refugio, furnishing Pettus its first pipe line outlet, all crude oil heretofore having been shipped out in tank cars over the Southern Pacific lines.

The Pettus to Refugio unit of the system, just completed, consists of 30 miles of six-inch pipe and eight miles of four-inch, the latter on the Pettus end of the line. The trunk line from Refugio to Humble Oil & Refining Company's refining and shipping center at Ingleside on the Gulf Coast is a 28-mile, eight-inch line, which has been in operation since about May 1, 1930.

On the Pettus extension there is a pump station at Pettus with capacity of 10,000 barrels daily. In connection with the system two 30,000-barrel steel tanks were constructed.

Although the above line is the only crude oil outlet completed or proposed for the Pettus field, a pipe line system for handling gas production there is under construction by the United Gas Company. When completed it will consist of an 18-inch line from Refugio to Pettus, while north of Pettus it will branch off in two directions, west and north, to connect with the former Magnolia Pipe Line Company trunk line, now owned by United Gas Company, leading from Southwest Texas into San Antonio, and with the line which United Gas Company built last year from Kennedy and adjacent towns into San Antonio. Of the 37 mile section of 18-inch line between Refugio and Pettus 30 miles have already been completed. The remainder of that unit and the branch lines mentioned are expected to be completed by the latter part of October.

Average daily oil production in the Pettus field during the week ending October 2 was 8095 barrels from 38 producing wells, most of them to some extent, while several other completed producers were wholly shut in during the week.

Wells which were completed in the Pettus district the past week included four oil wells, one gas well, and two failures. Humble Oil & Refining Company's McKinney 7, south of the Pettus townsite line, came in flowing 250 barrels pipe line oil daily through a one-quarter inch choke, registering working pressure of 650 pounds on tubing and rock pressure of 1075 pounds on the casing. Six and five-eighths inch casing had been set immediately above sand logged at 3858-61 feet. S. R. C. Oil Company's Townsite 1, Block 22, a direct north offset to the above well, came in for 800 barrels pipe line oil through a three-quarter-inch choke, with working pressure of 225 pounds. The oil sand was found from 3875 to 3909 feet. Houston Oil Company's Matthews 1, Block 32, was completed at 3864-3913 feet as a 20,000,000-foot wet gas producer with rock pressure of 1025 pounds. Union Producing Company's Ray 18 began flowing 130 barrels daily through a one-quarter-inch choke at 3927 feet. The same company's Ray 21 was completed at 3887 feet as a gas well with estimated rock pressure of 900 pounds.

Union Producing Company's Ray 17, three miles east of Pettus oil production, was abandoned at 4568 feet. It had tested salt water through drill stem at 4376 feet. Its location was in the R. C. Millican Survey, 800 feet southeast of the same company's Ray 11, former wild gas well, and three-quarters of a mile south of Ray 3, which yielded a little oil, although not in commercial quantity, in the early development of the field, before commercial oil was found.

The other unsuccessful test abandoned the past week was Trinity Drillers' and T. B. Slick's Alfred Theis 1, in the R. S. Barnes Survey, one mile northeast of Cadiz, midway between the Pettus and Lucas fields, at a distance of about 14 miles from each, and about 10 miles west of Beeville. This wildcat was abandoned at 5245 feet. It had encountered what was probably the equivalent of the Pettus oil sand at 4253-78 feet, but on a drill stem test it showed salt water. In the Lucas field, Live Oak County, Houston Oil Company's Ross Boothe 1, abandoned some time ago because of the hole being in bad condition, showed oil on drill stem test in a 5250-foot sand corresponding to the Pettus oil sand, that is in the uppermost portion of the Claiborne.

Barbers Hill Well Penetrated Cap Rock and Salt to Pay Sand

HOUSTON.—One of the most interesting oil wells ever completed along the Gulf Coast is Mills Bennett Production Company's Barber 3, near the center of the north flank of Barbers Hill dome, Chambers County. It came in about the middle of the past week flowing 1400 barrels of 29.5 gravity pipe line oil daily, following setting of 142 feet of 4¾-inch screen at 5147 feet.

The interesting feature of its completion was that it had previously penetrated 1985 feet of cap rock and salt, drilling through 344 feet of cap rock from 1213 to 1557 feet, and through 1641 feet of salt from 1557 to 3198 feet, passing then into sands and shales. Incidentally, it had several good oil showings between the latter depth and the horizon in which it was finally completed. Several of those sands were regarded as rich enough to produce commercially. This well holds the record for having penetrated the greatest thickness of salt ever drilled through at Barbers Hill, and at no time in the history of the Gulf Coast has any previous well drilled through so much salt and passed back into sedimentary formations.

Aside from being unusual by virtue of drilling through the great thickness of salt, the above well is interesting by virtue of having extended production 2000 feet west and slightly north of the nearest producer, Humphreys Corporation's Morgan 1. From the nearest production on the northwest flank of the field, the Mills Bennett semi-wildcat producer is approximately 4000 feet east. There has been very limited production along the extreme north flank of the dome, and the Bennett producer is the best well completed along that sector.

About the same time that the above well was completed Humphreys Corporation completed another good well on the northwest flank of the dome. It was Kirby A-9, which came in flowing 1985 barrels 34.7 corrected gravity pipe line oil daily through a 17/32-inch choke, with pressure of

690 pounds. The producing sand was logged from 6381 to 6407 feet, and two joints of screen were set on bottom, with full string of 4½-inch liner to the top of the well. Temperature of the oil at the well was 82 degrees. This well is a northeast offset to Humphreys Corporation's Kirby A-8, prolific well which discovered the deep sand on the northwest flank, and which is still flowing after having produced around 800,000 barrels since it blew in January 4, 1930.

Following completion of Kirby A-9, Humphreys Corporation has made location for Kirby A-10 at a point 1276 feet east of the west line and 646 feet north of the south line of the Kirby "A" lease in the northwest corner of the Henry Griffith Survey. That location is 590 feet east and 376 feet north of that of Kirby A-9.

On the west flank of the dome Rio Bravo Oil Company tested salt water in A. M. Fisher 1 at 6142 feet, and is pulling screen to drill deeper. That well is approximately 1000 feet north of Yount-Lee Oil Company's Zadie Fisher 1, discovery deep well of the west flank.

Aside from the two new producers mentioned above, recent completions at Barbers Hill included Sun Oil Company's Wilburn Fee 10, which was swabbed in and which began producing 725 barrels of 27.5 gravity pipe line oil daily through one-half inch choke, with eight joints of screen set at 5274 feet. It is producing through 2½-inch tubing. McAlbert Oil Company's Woodward 5, a workover, began pumping 156 barrels daily at 5249 feet.

Complete Good Producer on Allen Dome

Houston.—One of the best producers completed at Allen dome, Brazoria County, was brought in October 4 when Mills Bennett Production Company's Poole 1 began flowing 1550 barrels pipe line oil daily through a quarter-inch choke. Two joints of 4¾-inch screen had been set at total depth of 4378 feet.

An interesting feature of the well is that it drilled through more than 500 feet of cap rock after hitting the top of the cap at 1463 feet, passing back into sedimentary formation around 2000 feet. "Overhangs" of this nature have been found on the edges of several Gulf Coast salt domes, but the only other dome where wells have drilled through the "overhang" and been completed as oil producers has been Barbers Hill. In the deep development on the northeast flank of that dome it has been common practice to drill through cap rock.

The above well at Allen dome is on the southeast flank, being 500 feet north of the south line of the T. & W. Alley Survey, and 100 feet west of the Bernard River. It is north of Mills Bennett Production Company's Allen 1, which was completed as a 2000-barrel well. That company's Allen 2 is drilling sandy lime at 4038 feet, while its Randon 1 has drill stem stuck in shale at 5320 feet.

Mills Bennett Production Company recently acquired full ownership of extensive properties at Allen dome formerly held by Shell Petroleum Corporation, including the Poole and the Allen leases. Shell Petroleum Corporation, discoverer of the dome by geophysical methods, still retains an interest in its Randon and Allen Bernard River bed leases, however, with Mills Bennett Production Company holding the working interest.

One well in the river bed, Allen Bernard 1 of the joint interests, is pumping around 25 barrels daily. Mills Bennett Production Company's Allen 1, the producer mentioned above, is now pumping 25 barrels daily also.

Start Gauging Darst Creek Wells for Proration Schedule

HOUSTON.—With October 12 set as the date for substituting a new proration schedule for that now in effect at Darst Creek, gauging of wells for determination of potentials was started October 7. On October 3 representatives of all producers in the field together with the proration umpire, H. H. Fitzpatrick, met in Houston and discussed field regulations and plans for taking the gauges.

Nearly 30 new wells have been completed at Darst Creek during the past several weeks, boosting the total number to about 200, and consequently there is a possibility that the new potential production of the field may show an increase over the potential of 156,822 barrels credited to 165 wells on August 14.

Announcement was made last week that Louisiana Oil Refining Corporation had been purchased by the Cities Service Company (Henry L. Doherty interests) for the account of Arkansas Fuel Oil Company, subsidiary of Arkansas Natural Gas Company. Following that announcement there was speculation as to whether or not the sale would affect proration in any way at Darst Creek, for Louisiana Oil Refining Corporation, as a producer in that field, was responsible for increasing the total field allowance from 22,000 to 42,500 barrels at the beginning of the current schedule in August, insisting upon producing at least 4500 barrels daily from its Darst Creek properties. It was pointed out that those properties had been purchased with a contract calling for such minimum daily production, and furthermore, that the oil was needed to keep the Shreveport, Louisiana, refineries of Louisiana Oil Refining Corporation in operation. Arkansas Fuel Oil Company, like the company whose ownership it has acquired, has main headquarters at Shreveport, Louisiana. On October 6 the executive committee in charge of administration of Darst Creek proration had not received any official notification regarding the change of ownership of the Louisiana Oil Refining Corporation properties, and plans were proceeding with the properties still listed under the old name.

The production quota at Darst Creek under the program which went into effect in August was arrived at by determining the potentials of all the wells in the field and by then making calculations restricting the output of all producers proportionately to the extent that Louisiana Oil Refining Corporation's properties be allowed daily production of 4500 barrels. If those properties are to be given the 4500-barrel allowance under the new ownership they will again determine the field's allowance; and with their potential production conjectural at present, there is considerable uncertainty as to what the forthcoming quota for the field will be.

During the past week over half a dozen new wells were completed at Darst Creek, and several others are in process of completion. Gulf Production Company finished three wells. Tadlock 3 was swabbed in at the rate of 250 barrels daily from six feet of Edwards lime at total depth of 2631 feet, and will be put on the beam. Tadlock 4 was swabbed in for 720 barrels daily at 2632 feet and will be put on the pump. Dix-McKean 10 was swabbed in at the rate of 3120 barrels daily from 15 feet of Edwards lime at 2629 feet total depth. Sun Oil Company's Knoblock 12 came in for initial production of 2500 barrels oil at 2496 feet. The Texas Company completed three wells. Dallas Wilson 9 was swabbed in at the rate of 408 barrels daily from 2632 feet. Parish 2 was swabbed in at the rate of 898 barrels a day from 2630 feet. Knoblock 5-A had initial production of 400 barrels at 2490 feet.

News From California Fields

BRAD MILLS, *Staff Representative, Los Angeles, California*

California Continues Effort to Reduce Production to 575,000 Barrels

LOS ANGELES.—A more determined effort to bring production below the present output of 590,000 barrels is being made in California, and with less opposition in evidence it is apparent that an actual total of 575,000 barrels is possible by November 1. Kettleman Hills is still furnishing an excess of 10,000 barrels and Playa del Rey is producing unrestrained, but further trimming of fields willing to abide by the new curtailment schedule will bring the state output to the base allowable, plus the unobtainable curtailment, and excesses.

California Proration Schedule, October, 1930

	October Potential B/D	Per Cent Curtailment	Fixed Allotment B/D	Production Sept. 16-30 B/D
Belridge	3,620	53.04	1,700	1,901
Brea-Olinda	22,450	51.00	11,000	10,819
Capitan	1,100	98.18	20	61
Coalinga	34,000	73.53	9,000	8,820
Dominguez	15,220	37.58	9,500	10,093
East Coyote	3,595	55.49	1,600	1,625
Elk Hills	30,035	43.40	17,000	17,790
Elwood	115,970	69.82	35,000	35,077
Fruitvale	8,580	69.23	2,640	2,295
Huntington Beach	44,190	36.64	28,000	28,836
Inglewood	22,365	28.46	16,000	16,916
Kern Front	20,975	54.71	9,500	9,829
Kern River	12,000	77.50	2,700	2,523
Kettleman Hills	90,000	83.33	15,000	24,623
Lawndale	250	10.00	225	302
L. A. & Salt Lake	1,450	3.45	1,400	1,540
Long Beach	203,785	53.38	95,000	99,579
Lost Hills	6,500	95.00	325	316
Maricopa Flat	16,055	50.17	8,000	7,760
McKittrick	4,660	22.75	3,600	3,902
Midway-Sunset	89,530	44.15	50,000	54,150
Montebello	9,115	21.00	7,200	7,052
Mount Poso	23,455	61.63	9,000	9,429
Newport	30	....	30	30
Playa Del Rey	23,450	....	.....	20,987
Potrero	2,150	....	2,500	2,150
Richfield	15,200	40.79	9,000	8,833
Rincon	2,600	....	2,700	2,438
Rosecrans	6,655	17.36	5,500	6,286
Round Mountain	11,970	66.58	4,000	4,125
Santa Fe Springs	176,865	49.11	90,000	97,138
Santa Maria	10,400	71.15	3,000	3,365
Seal Beach	35,425	49.19	18,000	18,885
Summerland	300	....	300	284
Torrance	11,825	15.43	10,000	11,287
Ventura Avenue	90,780	48.78	46,500	47,377
Ventura-Newhall	5,800	22.41	4,500	4,533
Watsonville	60	....	60	57
West Coyote	11,690	27.29	8,500	9,201
Wheeler Ridge	600	....	600	578
Whittier	1,450	3.45	1,400	1,433
TOTAL	1,186,150	54.47	540,000	594,270

Note—This schedule makes no provision for the present excess of 10,000 barrels daily at Kettleman Hills, nor for an unobtainable curtailment of 7,000 barrels daily at Santa Fe Springs, nor for the current production of 20,000 barrels daily at Playa del Rey; nor for small production from new fields.

Actual production on September 30, 1930 was 584,850 barrels.

Not a California field had an average daily yield of 100,000 barrels during the latter part of September,—the first time in nearly three years that at least one field did not produce this much over a semi-monthly period. Long Beach registered a daily average of 99,579 barrels, falling just short of the round figure, while Santa Fe Springs was a close second with 97,138 barrels. The new allowables for these fields are 95,000 barrels and 90,000 barrels, respectively, making the present output only slightly more than the allotted amounts.

Santa Fe Springs dropped ot 93,000 barrels on October 5, but the average production for the week was somewhat higher. On the same date Long Beach was hovering around 100,000 barrels and showing signs of a steady drop toward the allowable. Kettleman Hills is producing 26,000 barrels daily and there is some doubt concerning the possibility of a much smaller figure for several weeks. Ventura Avenue, with a production of 46,000 barrels, Elwood, with 36,000 barrels, and Midway-Sunset, with 51,000 barrels were only slightly over their allowables on October 1 and there is only the barest possibility that any of these fields will cause further trouble. The smaller fields are generally within their allowables or only slightly over the allotted totals.

The natural desire to curtail production is stronger than ever before and this sentiment has been a big factor in the 15,000-barrel drop of the past two weeks. Many operators who were lukewarm in their attitude toward conservation now admit that a production of 800,000 barrels would result in disaster. Many of these operators professed not to see disaster ahead while the state output was actually this amount, however. It is even difficult to see how the long period of overproduction was tolerated without more serious results.

Concentration on a plan to prevent inauguration of an extensive development campaign at Kettleman Hills has resulted in a more optimistic feeling concerning the ultimate outcome of negotiations. Ray Lyman Wilbur, Secretary of the Interior, has been greatly alarmed over the prospects of a flood of light oil from the field. William Reinhardt, vice-president of Shell Oil Company and chairman of the Kettleman Hills committee, shares the belief with Secretary Wilbur that not only California but the Mid-Continent and other districts would suffer from a high output from the district.

Unit Plan Balked

The mixture of fee land and government permits has been a natural barrier to a unit plan of development. Several landowners have held their leases for 20 years or more and are anxious to have their holdings developed at once. Singularly

enough, the fee land was largely overlooked when the present curtailment agreement was made. Standard Oil Company controls more than half of the field through fee ownership, and since this company readily became a party to the agreement, the smaller operators on the flanks were more or less overlooked. With the completion of a 12,000-barrel well on an edge tract, many of the fee leases look very attractive and may be important enough to hold the balance of power in new agreements. Insistence on the part of at least one land owner has been responsible for the operation of one well and subsequent completion of two offsets. Such persistency on the part of a few others would be harmful to the unit plan of operation, or any other agreement which might be circulated. Where land owners have held their leases for long periods, they are naturally anxious to benefit by immediate development. A few lessors have had no experience in production of oil and gas and can not understand why larger operators are anxious to withhold a flood of light oil.

Upon Secretary Wilbur's return to Washington, he expressed the opinion that a large production from Kettleman Hills would force the closing down of practically all heavy oil fields in California, and perhaps many of the light oil fields.

Operators Prepare to Develop Fee Lands on North Dome

COALINGA, Calif.—Preparations are being made by operators of fee land on the North Dome at Kettleman Hills to develop their holdings in conformity with lease requirements, despite the possibility of a unit plan of operation which may include both government permits and patented lands. The proposed development campaign has not been planned with the view overriding the benefits of the curtailment program now in effect and is not extensive enough to cause alarm, but each new location could easily lead to at least one other and spread activity to all parts of the North Dome. Discovery that the flank leases may be almost as productive as the inside tracts has influenced outside operators in their decision to carry out at least a modest drilling program.

Union Oil Company has acquired a 50 per cent interest in the King lease, held by Amerada Petroleum Corporation and embracing the southwest quarter of Section 29-21-17. Entrance of this major operator into the field is considered an advantage for the conservation scheme. Union Oil Company already has a pipe line leading from the field to the Pacific ocean.

Superior Oil Company's Huffman 1, completed three weeks ago with an initial production of 12,000 barrels, has declined to about 10,000 barrels but such a performance in what was considered an edge well is remarkable. Huffman 1 is more than three miles northwest of the discovery well and near the plunge of the structure toward the plains. The company has located Huffman 2 as an offset.

The geology of the North Dome has been simplified somewhat by the completion of Superior Oil Company's Huffman 1 at 8323 feet. The oil produced by this well is black, in sharp contrast to the clear product obtained from completions on top of the North Dome. Since Huffman 1 is flowing from more than 1000 feet of oil sand, it is probable that the gas is concentrated near the top of the structure and the bottom of the Temblor will yield a heavier crude. Although only the bottom of the zone may have heavier oil on the top leases, the entire thickness of the formation probably will yield black oil on edge leases. This is the result of a natural concentration of gas near the apex of the structure. Early completions included the top of the Temblor zone, but enough sand was cut to prove the existence of a much lighter oil on top of the structure than on the outside tracts. From top to bottom, as well as from center to outside, the gas comes first, the very light oil second and the heavier oil last. Enough is now known to warrant the belief that Kettleman Hills, instead of being a freak, is just another "old fashion oil field."

Danger of High Production At Playa del Rey About Passed

LOS ANGELES.—Danger of a high peak production from the townlot district at Playa del Rey seems to have passed and it should not require more than another 30 days to prove definitely to operators in this crowded sector that the chances of obtaining their original investment are decidedly against them. Fields having a thick producing sand and a high gas pressure could not stand the terrific pace which has been set in this heavy oil field; so it is evident that wells starting late in the development program will be drilled with the odds against an initial production sufficient to warrant completion.

A survey of the field reveals the small, one-well operator to be overwhelmingly in the majority. He is drilling chiefly with funds derived from the sale of stock to persons willing to risk townlot operations. In most instances, the lots are located within the proven area, and for this reason the investor is given the assurance that he is not participating in a wildcat venture. This argument is correct, but unless the field takes an unexpected turn for the better, the average investor may be paying a dollar for possibilities not worth more than 50 cents. The mere fact that the oil has been found and a few fair wells have been completed appeals to the speculator who is furnishing the funds.

No attempt is being made to discourage small operators, but geologists hold to the belief that many locations being made at this time will never be converted into finished wells. When it is obvious to the average operator that a well drilled to 6200 feet can not pay for itself, he may run to cover; and suspension of a large number of drilling wells is possible. Withdrawal of funds will be rapid when a true decline is observed. The development campaign is still young and the belief that each lot is the best still persists. The large number of new locations reflects the leasing stipulations in vogue, and perhaps indicates that the majority of operators are not aware of the fate in store for them.

Drilling wells and active locations have increased to 165, of which about 100 are making hole. Concentration of activity in the small townlot area leaves the larger leases held by Union Oil Company and Ohio Oil Company virtually untouched. These companies probably will drill one well to not less than five acres and there is a possibility that these leases will prove profitable.

Several wells have been tested with disappointing results, the tendency to flow spasmodically or not at all being pronounced. Abandonment of Ohio Oil Company's Del Rey 2, an outpost in the southeastern part of the field, at 6680 feet definitely limits the field in this direction and indicates a structural trend toward the west. Altadena Oil Company completed No. 1 with an initial production of 1800 barrels at 6100 feet, making it the best week. Pacific Shore Oil Company broke into the producing column with the completion of Strain 2 as an 800-barrel producer at 4580 feet. This well included all of the upper zone and was given every chance to make the best possible showing. Pacific Western Oil Company recompleted Stan-

ley-Leiber 1, but obtained a production of only 150 barrels from a depth of 5965 feet. Three more small wells were completed, all having shown doubtful tendencies toward steady production.

The low gas pressure, lack of sand uniformity, and tendency of wells to go off production have caused some alarm, and rightfully so. Intensive perforation of the producing zone in a field none too promising if developed along conservative lines is already beginning to make itself felt and the pump and compressor will be pressed into service far ahead of the long flowing stretch intimated by promoters interested chiefly in disposing of stock.

Discovery of Temblor Sand At Beldridge Considered Important

Taft, Calif.—Discovery of the Temblor sand in Richfield Oil Company's Belridge 1 at 4960 feet, or considerably higher than in Belridge Oil Company's No. 15, was a significant development and indicates the extension of this light oil producing formation over a wide district in the Belridge-Lost Hills area. The discovery extends the probable producing limits of the Belridge field in the deep zone by about one and one-half miles and adds to the chances of deep zone production in the Lost Hills field to the north. Richfield Oil Company is drilling at 5000 feet in hard sandstone and shale and with a strong gasoline odor. Gas pressure has increased and a very heavy mud is required to hold back the flow. General Petroleum Corporation, Union Oil Company, the Ohio Oil Company and several other operators recognize the possibilities of the district and will develop their holdings in the deep zone if necessary. General Petroleum Corporation has one of the heaviest derricks and drilling outfits at Berry 1 ever assembled in the district. Extension of the Temblor formation is assured, but the producing area remains questionable. If the Belridge field is productive in the Temblor zone, the Lost Hills field is in line for development. George F. Getty has made a location in the southwest quarter of Section 12-26-20, about 1500 feet northwest of the producing limits of the Lost Hills field, and will drill for the Temblor zone. Belridge Oil Company's Fee 15, the original deep test in the North Belridge field, has been deepened to 5455 feet and will be tested again in the Temblor zone. The first production test in the top of the formation at 5086 feet resulted in only a small production of light oil and a good flow of gas.

Carpenteria Activities Suspended

Carpenteria, Calif.—The complete suspension of activities on the Carpenteria structure marks the apparent end of attempts to open up another field along the coast line between Ventura and Point Concepcion. Continental Oil Company, first operator in the district to reach the gas sand below 4000 feet, has quitclaimed its leases and ocean permits and the various wells and validation holes started by this company and others will be abandoned. Two years ago excitement ran high when Continental Oil Company tapped a gas sand and developed a very high gas pressure in its original wells. Everything was placed in readiness for the production test, but the well proved a disappointment, flowing only a small amount of gas and no oil. Later a second well was drilled, but it even failed to tap the gas sand found in the original test. The formation stands on end at the surface, but there was hope that it straightened out beneath the surface and formed the necessary trap. No further work is anticipated on this structure in the immediate future.

Get Two Good Los Cerritos Completions

Long Beach, Calif..—Two unusually good completions in the Los Cerritos district at Long Beach further stimulated activity in this extension and gave the 7500-foot zone a much better appearance than any formation found below the original producing level. The completions were K. G. Pullian's No. 3, a 1500-barrel completion at 7485 feet, and S. S. Wortley's No. 2, which was recompleted with an initial flow of 2000 barrels from 7495 feet. The oil was clean in both wells and the producers otherwise gave evidence that the newest deep zone must be recognized. A depth of 7500 feet has been considered prohibitive where production has been irregular or doubtful, but such a large flow can not be ignored. Deepening of many wells will be started. The southeast section lost much of its prestige during the past two months, but completion last week of a 1000-barrel producer resulted in three additional locations. A considerable area lying south of the fault line and in a partially neglected section is being developed. With more than 125 drilling wells, Long Beach is by far the most active settled field in California. Development is widespread and there is some activity in every nook and corner of the field.

Plug Back to Meyer at Santa Fe Springs

Los Angeles.—Plugging back deep zone wells at Santa Fe Springs to the Meyer zone is gaining momentum and a large number of producers on top of the structure will be re-conditioned to establish a more profitable output from a less expensive depth. George F. Getty, largest independent operator in the field, will plug back 10 to 15 wells which have ceased to produce profitably from the deeper zones, all to be recompleted in the Meyer zone. The uniformity of production from the Meyer zone can not be excelled in the field and the less stable Clarke, Buckbee and Nordstrum sands are being abandoned in many of the wobbly producers. Reconditioning of O'Connell zone producers has not been as common as the process in Clarke and Buckbee sands. Field activity has dwindled to six drilling wells and a handful of plugging back operations.

Weed Patch Wildcat Promising

Bakersfield, Calif.—Shell Oil Company is satisfied with the action of Porter-Day 1, a wildcat in the Weed Patch district about 10 miles southeast of Bakersfield, and will drill two more wells in the immediate district on the theory that the structure will be commercially productive if properly drilled. One well is located on Section 29-30-29 and another on Section 32-30-29, both being indirect offsets to Porter-Day 1, which fell just short of commercial production when tested at 5370 feet. Casing and tubing pressures indicated an accumulation, but a water shutoff was not effected.

Plan Getty Line from Kettleman Hills

Los Angeles.—An eight-inch oil line, to connect Kettleman Hills with some point on the Pacific ocean, will be completed by July 1, 1931 by George F. Getty, Inc., a leading independent operator and holder of extensive acreage in the field. Completion of this line will give Kettleman Hills three direct pipe lines to the coast, besides other lines which connect with older lines leading toward the San Francisco Bay district.

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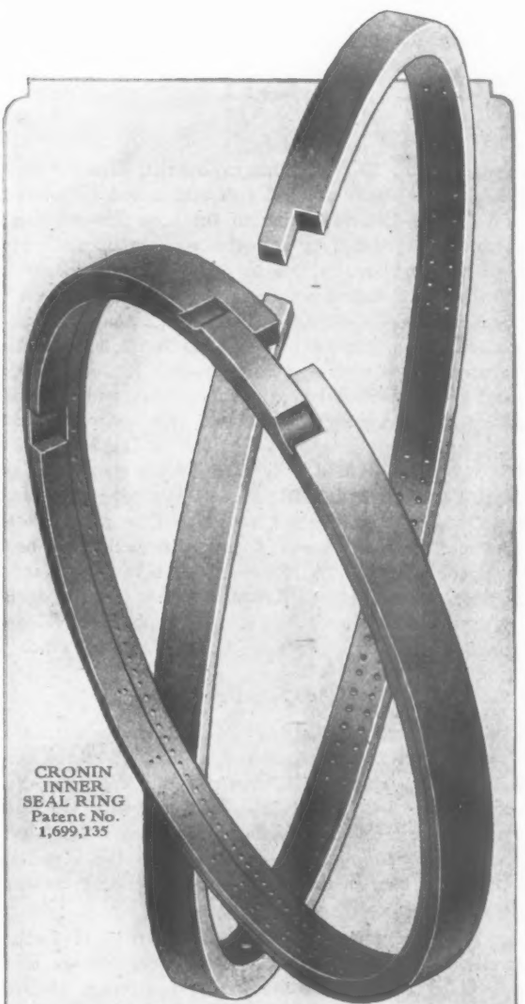

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Louisiana--Arkansas Field Notes

Zwolle Field Is Extended Mile South By Largest Well

SHREVEPORT.—Extension of the Zwolle field in Sabine Parish, Louisiana, slightly over one mile south by the completion of what may prove to be the field's largest producer featured the week ending Monday, October 6, in this territory.

The new producer is Pelican Natural Gas Company's Sabine Lumber Company 4, NE NW NE Section 11-7-12, completed at 2357 feet in the Zwolle chalk rock, came in Saturday night, October 4, and shot a stream of oil to the top of the 120-foot derrick. Later it was choked down and on Monday, October 6, was flowing 120 barrels hourly through ¼-inch choke. It is making a little gas along with the oil. Six and five-eighths-inch casing had been set at 2279 feet. Three 500-barrel tanks had been completed Monday, October 6, but these had been quickly filled and the oil was escaping into nearby ravines as Standard Oil Company of Louisiana, which owns an interest in this well, was rushing a four-inch gathering line from Loring Oil Company's Bowman-Hicks A-1 in Section 34-8-12, to the new well.

This well is one-half mile east of one of the early tests drilled in Zwolle 22 years ago by Lumbermen's Oil & Gas Company, which went to 2800 feet, passing up the chalk rock formation which even in this pioneer well showed some oil in that horizon. The well is one and one-half miles east of the first well in the Zwolle east field completed last November and is slightly over one mile south of nearest production.

On Thursday, October 2, Tarver and Lanier's Newton 1, NW NW Section 25-8-12, in the Zwolle east field started heading and is estimated to be good for 300 to 500 barrels daily from 60 feet of Zwolle chalk at total depth of 2433 feet, 6⅝-inch casing having been set at 2325 feet. This well is the most northeasterly flowing well in Zwolle and is only one location west of the east border line producer of that part of the field, Huber and Mann's Newton 1, in the same section, which was standardized during the week just closed as a 25-barrel producer at 2417 feet. The new flowing well is between it and Lacey Petroleum Company's Tatum 1, Section 26-8-12, a 500-barrel flowing well.

Indication of failures in two directions, north and south of Lenz and associates' Johnson 1, Section 24-15-26, Miller County, Arkansas, a wildcat completed in the lower Woodbine at 2847 feet as a 25-barrel producer several weeks ago, was given during the last week. Lenz and associates' Johnson 2, SE NW Section 24-15-26, tested salt water through drill stem at 2920 feet, but casing is being set nevertheless. This test is 600 feet north of the producer. Two miles south of the producer E. & F. Oil Company's Beck 1, Section 36-15-26, tested dry through drill stem at a depth of 2796 feet but is going deeper. Much secrecy is thrown around the operations in this area by the operators.

After testing salt water through drill stem from 3545 to 3560 feet, Marine Oil Company deepened the hole in P. Winn Estate F-1, Section 10-18-13, Urbana district, Union County, Arkansas, to total depth of 3604 feet and tested 23 joints of pipe line oil from 3593 to bottom of the hole. Later 6⅝-inch casing was set at 3595 feet and the well, when drilled in, refused to flow but is expected to make a good pumper. It offsets the most consistent of the four present producers in the field, Marine Oil Company's Thompson A-4 in the same section which is pumping 350 barrels of clean oil daily. Marine Oil Company's Thompson A-3 in the same section, the discovery well of the field, is being blown with air and is making 5500 barrels of fluid daily, 90 per cent salt water and basic sediment. Simms Oil Company's Simmons 1 is pumping and flowing 1000 barrels of fluid daily 95 to 97 per cent water and fluid. Marine's Winn Estate B-3 the other producer has been shut down while being cleaned recently. One new location was announced in that district during the week, this being Oilfields Corporation's J. A. Simmons 1, NW NW Section 13-18-13, where derrick is up. Arkansas' other location during the week was H. L. Hunt's W. R. Swilley 5, NE NE Section 28-16-16, Smackover district, Union County, which is rigging up.

Holly Has Two Failures

Two failures were chalked up for the Holly district of DeSoto Parish. R. O. Roy abandoned a third test three miles northwest of the producing field when he quit Nelson 2, Section 35-15-13, as a dry hole at 1300 feet. Standard Oil Company's Farmer A-3, NW NE Section 5-13-13, offsetting a producer, was abandoned as a salt water hole in the Woodbine at 2894 feet. However in the same section the same company is rigging up for Farmer A-4.

Between production in the old Naborton field in DeSoto Parish and the Bull Bayou field of Red River Parish, E. C. Lucas completed Louisiana Delta Pecan 1, Section 24-13-11, Red River Parish, as a 90-barrel pumper at 2476 feet, 20 per cent of the yield being salt water. This area had been drilled considerably some years ago but had been quiescent in recent months.

W. M. Coats who is drilling Collins 1, Section 28-9-10, Natchitoches Parish, 12 miles northeast of production in Zwolle, found base of the Zwolle chalk at 2612 feet, about 100 feet before expected, after having encountered this formation 70 feet higher than in Zwolle. This operation is now drilling in sandy shale at 2678 feet. J. W. Cooper and associates who failed to bail in Cooper 1, Section 35-11-10, Natchitoches Parish, through drill stem set with packer is shut down at 1290 feet and have made locations for Cooper 2 in Section 32-11-10.

Louisiana Oil Refining Corporation is rigging up for a test of the upper Trinity found at 1800-1900 feet in Bellevue shallow field of Bossier Parish and Harry I. Morgan and Shreveport-El Dorado Pipe Line Company have spudded in another test there and set 10-inch surface casing at 140 feet, the new

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operation being Weatherbee B-6, Section 22-19-11. National Drilling Company which has done some exploration in past years in Catahoula Parish, east central Louisiana, has made location for Marshall MacMillian 1, Section 28-9n-6e, of that parish.

Two new locations were made in the Zwolle east field, one being a mile north of production. This is The Texas Company's Largent 1, Section 24-8-12, where derrick pattern has been run. One new location was made in Richland Parish, two for the Pine Island field of Caddo Parish and one for Union Parish, Monroe district.

Triangle Drilling Company, Standard Oil Company of Louisiana, and Louisiana Gas & Fuel Company, announce that work will start soon on a gasoline extraction plant in Sugar Creek district, Claiborne Parish, where these companies jointly own three gassers producing gas with high gasoline content from the upper Trinity. The plant will have 30,000 gallons daily capacity and will be completed by January 1, according to present plans. Survey for a 10-inch gas line to link up with Louisiana Gas & Fuel Company's Monroe-Waskom trunk line is already under way.

L. W. Dennis of Tyler, and J. M. Pressler of Marshall, Texas, have blocked 4000 acres of land near Redwater, Bowie County, northeast Texas, and plan spudding in a test within 60 days from October 1.

Wyoming Land Bids Are Confirmed

Cheyenne, Wyo.—The register of the local federal land offices has been notified by the Washington office of the federal land commission that bids of Ohio Oil Company and Custer Petroleum Company on leases on government lands in the Oregon Basin field have been confirmed by the department of the Interior. These leases were sold to highest bidders in Cheyenne August 8. Custer Petroleum Company was awarded the No. 2 unit which consists of 520 acres on a bid of $220 per acre, or $114,400 for the unit. At the time of the bid there was a cash deposit as evidence of good faith of $22,880. Ohio Oil Company was awarded the No. 3 unit, consisting of 200 acres, on a bid of $416 per acre, or a total of $83,200. These two units are the Elk Butte and Wiley dome fields. No bid was offered for the No. 1 unit, consisting of 520 acres, in the southern part of the field because it would require drilling about 15 offset wells by the successful bidder.

Garland and Byron Wells Shut Down

Byron, Wyo.—The discovery oil wells drilled by Ohio Oil Company on the Byron and Garland structures, lying on either side of this town, are at present shut down. The well at Byron is good for 1000 barrels per day from the Tensleep while that at Garland produced more than 2000 barrels per day from the Madison.

Billy Creek Gas Line Completed

Casper.—The gas pipe line from the Billy Creek field, central Johnson County, Wyoming, to the towns of Buffalo and Sheridan, has been completed by Hope Engineering Company of Mt. Vernon, Ohio, and gas has been turned into the mains. There are only two wells in the Billy Creek field which have been tapped; their production is ample for the time being.

Casper.—A rumor is current here that New York Oil Company plans to extend its 10-inch gas pipe line from Casper to Glenrock on to Douglas and Lusk, and possibly Torrington. Franchises have been applied for in all three places.

Van Has 750,000 Barrels Daily Potential on First Anniversary

(*Continued from page 163*)

sustain a cut in its interest when the first adjustment of lease valuations are made, owing to acreage being condemned by dry holes and small wells. Humble Oil & Refining Company, which is carrying Gulf Production Company with a silent one-third interest, drew 7.75 per cent of the original unit, based on potential oil producing acreage contributed, but is likely to drop from second to last place among the interest holders when the first adjustment is made. The latter has only one pumper on its most promising lease, while an unsuccessful effort was made last week to develop production on the L. A. Dowdle lease, located in north portion of the unit, but the test was ordered temporarily abandoned in Woodbine sand at 2987 feet.

The Texas Company drew 4.51 per cent of the unitized block, and may lose a trifle on the re-adjustment, but is in line to offset this by greater losses being sustained by Humble Oil & Refining Company et al and Pure Oil Company. Sun Oil Company was assigned fourth place, with 3.57 per cent of the total, while Shell Petroleum Corporation drew a quota of 2.47 per cent. The latter has scored big production on all of its lease contribution, and is in line to gain by the re-adjustment, while Sun Oil Company is occupying the same position as The Texas Company, as far as taking a gain, or loss.

The unit area had 112 flowing wells and five pumpers that furnished 228,822 barrels of the pinched potential credited to the field on October 1, and these wells are allowed to produce 23,893 barrels daily during the October 1 to 15 period, or an average of 204 barrels per well daily. The 11 completed flowing wells, located on acreage outside the Van unit and on the east side of the field, showed a combined daily potential of 22,896 barrels through choke, and are to be allowed to produce 3,210 barrels daily, or an average of 292 barrels per well daily during the current proration period. These figures are taken from the official proration sheet. The non-unitized wells are faring better on production allowances than unitized wells as a whole. The two groups of wells are to be limited to 27,103 barrels daily for the period, with the unused portion of the 27,500 barrel allowance held for new completions, which are allowed to produce 100 barrels daily until new proration period begins.

Has One Line Outlet

Pure-Van Pipe Line Company, subsidiary of pure Oil Company, is running all of this oil, and paying Mid-Continent gravity scale prices at the well for same. The above interests contracted with associated unit members to take a maximum of 25,000 barrels daily from unit wells until November 1, 1930, and increased its oil takings to 27,500 barrels daily when the producing area extended beyond the pooled acreage, and proration became effective. The commission's proration order recognized this contract, and threw in 2,500 barrels additional in fixing the field's production quota to allow for completions on non-unitized leases. In order to correct previous published reports, the entire field shares in the 27,500 barrel quota, instead of the unit being limited to 25,000 barrels and non-unit wells 2,500 barrels daily. Current crude takings from Van field are in excess of Pure Oil Company's requirements, and partial relief from same from other unit members may be demanded by next November. Pure Oil Company's recent purchase of a stock interest in Ajax Pipe Line Company's middle-western trunk line system, which is being constructed by Standard Oil interests, may be the forerunner

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of a new crude arrangements that will also involve Van oil.

Van field proper was credited with 26 active tests, and a half dozen derricks and rigs early this week. The unitized acreage accounted for 14 of the active tests, while 12 rotary rigs were operating on non-unitized leases.

Potential production of the 11 completed wells located outside the Van unit, and allowable daily production for the October 1-15 proration period is listed below:

	Potential via 11/16" Choke	Daily Production Allowance
Humble Oil & Refining Company—		
R. S. Blake 1	2,400	426
R. S. Blake 2	1,320	192
R. S. Blake 3	1,556	226
E. E. Carroll 1	2,088	303
Pure Oil Company—		
M. L. McMahon 1	1,080	157
M. F. Shirley 1	2,280	286
Ella York 1	2,760	489
Shell Petroleum Corporation—		
J. T. Taylor 1	2,568	455
Broderick & Calvert—		
M. F. Shirley (2.07-ac) 1	2,544	100
Geo. Anderson & Fogelson—		
Sanger Bros. (8.46-ac) 1	2,376	297
The Texas Company—		
G. W. Carter 1	1,924	279
Total	22,896	3,210
Total for Unit Wells	228,822	23,893
Van Field Total	251,718	27,103

Another Sweetgrass Hills Field Promised

Bynum, Mont.—Midwest Refining Company reports the discovery of about one barrel of crude oil in its David Scott 36, on the Bynum, or Pendroy structure, Section 2-26n-6w, Teton County, Montana. The well is bottomed at 2503 feet and is to be shot in an endeavor to increase the production to a commercial quantity. If this attempt is successful Montana will have another oil field proved in the Sweetgrass Hills.

Central Mud Cleaning Plant Proves Value of Elaborate Reclaiming Methods

(*Continued from page* 58)

being skimmed off and the water returned to the classifiers. Due to the formations encountered by the mud in drilling, there is a gain in water, none having been added since the proper mixture was obtained in the beginning.

When originally mixed, the rotary drilling mud weighs about 80 pounds per cubic foot. Upon reaching the treating plant, its weight has been reduced to 68-72 pounds per cubic foot, while the sand content runs as high as 10 per cent. The reclaimed mud never shows a sand content of more than two per cent, and often shows as little as one per cent of sand.

Large settling sumps are used for gathering the mud before treating it. The rugged nature of the field makes possible a gravity flume method of bringing the mud to the reclamation plant. It has not been necessary to add fresh mud to the system during the three months operation, the small loss having been easily offset by the cleaning of some of the mud previously discarded. The cleaning plant has a capacity of 10,000 barrels per day, but a smaller amount is being reclaimed. Electric power is used exclusively, except for operation of the large pumps used to return the clean mud to the system.

September Field Developments Show Sharp Decline

By H. J. STRUTH
Staff Economist

FURTHER conslusive evidence of drastic curtailment in both production and field developments was shown during September, when well completions slumped to a new low level for the year and daily average crude production also registered a new low point on the decline. Well completions in the United States, outside the Rocky Mountain area, only amounted to 1165 wells during September, a decline of 672 wells under the total recorded during August. The daily average production of crude oil for all producing states also registered a new low record for the year, declining to 2,413,650 barrels a day.

UNITED STATES PRODUCTION

Following is the gross production in the United States (in barrels of 42 gallons) during September, as compiled from daily averages reported by the American Petroleum Institute. There are differences between the figures shown below and those contained in detailed tables appearing elsewhere in this issue. The figures below are the result of calculating A. P. I. estimates for the representative fields.

	Daily Average Production		Total Production
State—	September*	August	September*
Oklahoma	558,950	558,850	16,768,900
Kansas	116,600	115,650	3,498,750
Texas (Outside Gulf Coast)	605,600	646,400	18,168,300
Gulf Coast	200,850	206,600	6,025,600
North Louisiana	42,100	41,500	1,252,450
Arkansas	53,600	55,100	1,607,400
Eastern States	121,250	128,550	3,637,500
Rocky Mountain	110,550	106,000	3,316,650
California	604,150	611,250	18,125,000
Total	2,413,650	2,470,900	72,410,550

*Preliminary—Subject to revision.

Practically all producing areas of the United States reported decidedly fewer well completions during September, the Eastern States and Texas showing the greatest decline. Wells completed in the Eastern States amounted to only 313, against 548 in August, while Texas completions declined from 477 wells in August to only 319 in September. All areas shared in the general curtailment of drilling activity during September. As a result of bringing in fewer new wells, initial oil production for September declined more than 300,000 barrels. This decline in new oil production was practically all confined to Oklahoma and Texas, where initial production showed decreases of 188,000 barrels and 106,000 barrels, respectively.

A comparison of producing wells completed during August and September and respective total initial oil production shows that the average initial per well was somewhat larger during September. A total of 619 producing wells completed in September, with an aggregate initial oil yield of 833,109 barrels, indicated an average per well of 1345 barrels. During August, a total of 930 producing wells completed, with an aggregate initial oil yield of 1,160,055 barrels, indicated an average per well of 1247 barrels. It is readily seen, therefore, that if the former rate of drilling had been maintained during September, the industry would have perhaps chalked up a new high record initial oil production of more than 1,250,000 barrels. These figures furnish conclusive proof of the need for curtailed drilling, in combination with curtailed production and the trend indicated by the September results can therefore be considered most favorable at this time.

Daily Average Declined

What has been accomplished in the way of production curtailment is further emphasized by the results obtained during September. Preliminary figures indicate that the daily average crude output of the United States during that month declined to approximately 2,413,650 barrels, a decrease from the August total of more than 57,000 barrels daily. Further improvement in this direction was shown during the first week of October when production declined to 2,389,750 barrels daily. Oklahoma showed practically no change in daily production during September, compared with August, while Kansas recorded a slight gain over the August total. Texas, outside of Gulf Coast, materially improved the over-production situation there by recording a decline of about 41,000 barrels daily, which was further aided by lowered output in the Gulf Coast area. Arkansas, Eastern States and California also registered decreased daily average production during September, while North Louisiana and the Rocky Mountain States reported slight gains.

The total crude output of the United States during September receded from 76,664,350 barrels in August to 72,410,550 barrels. This represents a decline in total production for the month of about 4,250,000 barrels. Texas, outside of the Gulf Coast, was the largest contributor to this decline, production there showing a decrease of nearly two million barrels during the month. All areas, except the Rocky Mountain states recorded declines in total production; the Rocky Mountain area reporting a gain of about 30,000 barrels. When consideration is given to the enormous potentials of such fields as Oklahoma City, Yates, Hobbs and several of the California fields, it is gratifying to note the high degree of success that has accompanied curtailment activities in these areas. The detailed production figures for these and other fields for the month of September reveal numerous important changes that cannot be construed otherwise than favorable to the industry as a whole.

Comparison of the month's field operations for leading producing areas shows numerous important changes. In the Eastern States, Michigan and Mississippi were the hot spots of the month. Isabella County, Michigan, reported the completion of only eight wells during September but six of these were producers, with an aggregate initial production of 1400 barrels, whereas during August 23 wells were completed, of which 19 were producers yielding a total initial of 3140 barrels. This shows that Isabella County, Michigan, offers rather unusual

UNITED STATES FIELD STATISTICS

Following are the completions, showing oil wells, gas wells, failures and initial production of crude oil and gas by states for the month of September, as compiled by THE OIL WEEKLY:

State—	Completions	Producers	Gas wells	Failures	Initial Oil	Prod. Gas*
Arkansas	12	9	...	3	601	....
California	62	52	...	10	62,295	....
Illinois	11	8	...	3	177	....
Indiana	19	6	5	8	96	4¾
Kansas	87	28	26	33	12,241	145¾
Kentucky	59	30	9	20	852	4¾
Louisiana	70	20	22	28	10,588	130
Michigan	34	22	2	10	3,545	3
Mississippi	9	..	5	4	...	165
New York	9	9	..	..	25	....
Ohio	113	31	52	30	373	443¾
Oklahoma	233	150	21	62	635,377	956¾
Pennsylvania	60	49	8	3	284	6
Tennessee	3	..	3	..	...	6
Texas	388	217	32	139	107,325	743
West Virginia	55	18	32	5	192	19¼
Total	1,165	619	208	338	833,109	2260¼

*Million of cubic feet.

PAST TWELVE MONTHS

The record for the past 12 months is an interesting study for comparative purposes, the following table giving the field statistics for all states:

Month—	Completions	Producers	Gas wells	Failures	Initial Prod.
August	2,552	1,507	337	708	541,720
September	2,169	1,310	234	624	448,283
October	2,447	1,414	301	732	433,990
November	1,965	1,139	283	543	442,170
December	1,791	978	275	538	433,264
January, 1930	1,918	1,142	296	480	685,325
February	1,463	881	201	381	990,896
March	1,544	794	220	530	665,535
April	1,702	1,023	180	499	776,024
May	1,973	1,125	228	611	771,977
June	1,679	950	223	506	580,997
July	2,144	1,167	306	671	845,068
August	1,837	930	310	597	1,160,055
September	1,165	619	208	338	833,109

Note—Rocky Mountain data omitted.

prospects for future development and will in all probability prove of greater importance than the Muskegon field. Drilling activity in the new Jackson, Mississippi, area was further augmented during September with the completion of five gas wells with a combined initial volume of 165,000,000 cubic feet. During August, six gas wells were completed there with a total initial volume of 123,050,000 cubic feet.

Oklahoma City reported more wells completed during September, although the initial oil production was materially lower. Of 88 wells completed there during the month, 84 were producers, with a combined initial production of 608,995 barrels. During August, completions amounted to 78, of which 75 were producers yielding a total initial of 739,529 barrels. This area also contributed a large volume of new gas production during September, when the initial flow aggregated 754,000,000 cubic feet. Carter County reported 13 well completions in September, compared with eight in August and a total initial oil production of 8305 barrels against 7135 barrels in August. The Seminole field reported a material decline in well completions during September, when only 17 wells were completed, against 41 in August. With only nine producing wells completed there during the month, compared with 27 in August, the initial oil production showed a decline from 26,614 barrels in August to only 6870 barrels in September.

Kansas Completions Decline

Kansas reported fewer well completions during September and a smaller initial yield of oil. Drilling in Stevens County resulted in a gain in well completions from seven in August to 15 in September, although none of the wells completed was productive of oil; gas production, however, amounting to 98,050,000 cubic feet. Wildcat operations in North Louisiana resulted in fewer completions during September and a decided drop in initial oil production from that source. Only 19 wildcats were reported as completed during September, against 28 in August, while producing wells completed yielded only 941 barrels of oil, against 5120 barrels in the month of August. The Vinton field, in the Louisiana Gulf Coast, reported the completion of two producers during September, yielding a total initial of 5000 barrels. During August, this field was credited with five producers, but the initial production only amounted to 2965 barrels.

Practically all producing areas of Texas reported fewer well completions and materially less new oil production during September. The only exception was that of Darst Creek, where the number of producing wells completed showed a gain of 10, while initial oil production increased from 4940 barrels in August to 17,970 barrels in September. Barbers Hill, Gray County, Hutchinson County, Van Zandt, Ector, and Pecos County reported a material decline in new oil production during September. Gray County completions dropped from 42 in August to only 18 in September, while initial oil production showed a decline of about 17,000 barrels for the month. The Van pool in East Central Texas, also reported a sharp decline in initial oil production, although more wells were completed there during September. While well completions at Van increased from 19 in August to 23 in September, initial oil production declined from 100,620 barrels in August to 43,676 barrels in September. Pecos County, West Texas, was another area where both well completions and initial oil production showed a decided slump in September. The completions of six oil producing wells in the Pecos area during September resulted in the production of only 2282 barrels of new oil while during August, 12 producing wells completed resulted in a total initial yield of 21,781 barrels.

Los Angeles Basin Wildcats Not Promising

Los Angeles.—Important Los Angeles basin wildcats failed to improve their standing during the week, and the plugging back of one and failure of another on a deeper production test further reduced the possibilities of a new field. Rio Hondo Petroleum Company's Rowland 1, a wildcat in the Puente district, was deepened to 3727 feet and swabbed, but water and a trace of oil failed to offer much promise at this depth. Cores showed brown shale and oil sand. Standard Oil Company's Bastanchury 1, which was a commercial producer at a higher level, has been plugged back to 6770 feet for a production test of the zone found between 5700 feet and the plug. This test is located near Fullerton and is a wildcat as far as the deeper zones are concerned. Western Gulf Oil Company is building a rig for Abacherli 1, a wildcat test near Corona, and nine miles east of the Olinda field. Union Oil Company is making a production test in Sansinena 11, a wildcat located near La Habra, following cementing of a string of 6⅝ inch casing at 4445 feet. The well was drilled to 4810 feet and good oil sand and shale were cored below the final shutoff.

Summary of Field Operations for September, 1930

RECAPITULATION — UNITED STATES

	Completions	Producers	Gas Wells	Failures	Initial Production Oil	Initial Production Gas*	Total Production
Oklahoma	233	150	21	62	635,377	956¾	16,768,900
Kansas	87	28	26	33	12,241	145¾	3,491,850
Texas (outside Gulf Coast)	319	172	28	119	92,049	648	18,178,500
Gulf Coast	85	51	4	30	24,351	95	6,025,600
North Louisiana	54	14	22	18	1,503	130	1,262,450
Arkansas	12	9	..	3	601	...	1,607,400
Eastern States	313	143	107	63	4,692	284¾	3,637,500
Rocky Mountains	(a)	(a)	(a)	(a)	(a)	(a)	3,316,650
California	62	52	..	10	62,295	...	18,121,900
Total for September	1,165	619	208	338	833,109	2,260¼	72,410,750
Total for August	1,837	930	310	597	1,160,055	2,771¼	76,664,350

*Millions of cubic feet.
(a) Not available.

NEW YORK

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*
Allegany	9	9	..	..	25	..
Total	9	9	..	..	25	..

PENNSYLVANIA

Allegheny	1	1	..	..	60	..
Beaver	1	1	..	..	2	..
Bradford	19	19	..	..	86	..
Butler	6	4	2	..	29	1¼
Center-Middle	5	4	1	..	10	1
Clarion	18	17	..	1	40	..
Fayette	1	..	1	..	..	¾
Greene	6	2	3	1	42	2¾
Washington	3	1	1	1	15	¼
Total	60	49	8	3	284	6

CENTRAL OHIO

Ashland	9	..	3	6	..	9¾
Athens	9	1	4	4	1	2
Belmont	2	1	1	..	3	1¼
Coshocton	4	1	3	..	1	1¾
Cuyahoga	1	..	1	..	..	¼
Fairfield	2	..	1	1	..	¼
Guernsey	4	3	1	..	95	¼
Harrison	1	1	..	..	3	..
Hocking	3	1	1	1	2	¼
Holmes	2	1	1	1	6	¼
Knox	6	..	4	2	..	3¾
Licking	4	2	1	1	97	1
Lorain	3	..	2	1	..	3
Medina	9	6	1	1	51	1¾
Meigs	1	..	1	..	..	¼
Muskingum	5	1	3	1	25	1
Perry	3	..	..	3	..	..
Stark	5	..	3	2	..	6½
Summit	2	..	2	..	..	3½
Tuscarawas	2	..	2	..	..	2¾
Vinton	1	1	..	..	5	..
Wayne	3	..	3	..	..	¾
Total	81	19	38	24	289	40¼

SOUTHEASTERN OHIO

Jefferson	3	1	..	2	10	..
Monroe	3	..	3	..	..	¾
Morgan	6	2	4	..	4	1
Noble	2	2	..	..	4	..
Washington	5	1	1	3	5	¼
Total	19	6	8	5	23	2

NORTHWESTERN OHIO

Allen	1	1	..	..	25	..
Hancock	1	1	..	..	20	..
Hardin	5	1	4	..	5	1½
Mercer	1	1	..	..	2	..
Sandusky	1	..	1	..	..	½
Shelby	1	..	..	1	..	..
Wood	2	2	..	..	9	..
Wyandot	1	..	1	..	..	½
Total	13	6	6	1	61	2½
Total Ohio	113	31	52	30	373	44¾

WEST VIRGINIA

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*
Boone	8	1	7	..	10	7¾
Braxton	1	..	1	..	..	..
Cabell	1	..	1	..	..	1
Calhoun	5	1	4	..	1	1½
Clay	2	1	..	1	75	..
Dodderidge	1	..	1	..	..	¼
Hancock	1	1	..	..	7	..
Jackson	1	1	..	..	10	..
Kanawha	5	3	2	..	26	½
Lewis	2	1	1	..	4	¼
Lincoln	4	..	4	..	..	2
Marion	2	..	1	1	..	¼
Mason	3	1	2	..	1	1¾
Mingo	2	1	1	..	28	¼
Monongalia	4	1	2	1	2	½
Ritchie	4	2	1	1	12	¼
Roane	1	1	..	..	2	..
Wayne	2	..	2	..	..	1½
Wetzel	4	1	2	1	10	1½
Wirt	1	1	..	..	2	..
Wood	1	1	..	..	2	..
Total	55	18	32	5	192	19¼

KENTUCKY

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*
Breckenridge	1	..	..	1	..	..
Daviess	10	7	..	3	138	..
Hancock	6	3	2	1	120	1
Henderson	6	3	2	1	25	¾
Lawrence	4	4	..	..	18	..
McGoffin	1	1	..	..	3	..
McLean	9	4	..	5	25	..
Ohio	17	6	4	7	515	2¾
Pike	1	..	1	..	..	¼
Powell	1	1	..	..	2	..
Union	1	..	..	1	..	..
Warren	2	1	..	1	6	..
Total	59	30	9	20	852	4¾

INDIANA

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*
Davies	2	..	1	1	..	½
Floyd	1	..	..	1	..	..
Jay	1	1	..	..	5	..
Knox	2	1	..	1	2	..
Pike	9	3	2	4	29	3¾
Sullivan	2	..	2	..	..	½
Vigo	1	1	..	..	60	..
Warrick	1	..	..	1	..	..
Total	19	6	5	8	96	4¾

ILLINOIS

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*
Clinton	1	..	..	1	..	..
Crawford	1	1	..	..	10	..
Cumberland	1	..	..	1	..	..
Lawrence	1	1	..	..	1	..
McDonough	1	1	..	..	2	..
Madison	1	1	..	..	12	..
Randolph	1	..	..	1	..	..
St. Clair	3	3	..	..	140	..
Wabash	1	1	..	..	12	..
Total	11	8	..	3	177	..

MICHIGAN

Branch	1	..	..	1	..	..
Clare	2	..	..	2	..	..
Isabella	23	19	2	2	3,120	3
Livingston	1	..	..	1	..	..
Manistee	1	..	..	1	..	..
Midland	2	1	..	1	325	..
Muskegon	3	2	..	1	80	..
Presque Isle	1	..	..	1	..	..
Total	34	22	2	10	3,545	3

TENNESSEE

Overton	2	..	2	..	..	4½
Putnam	1	..	1	..	..	1½
Total	3	..	3	..	..	6

MISSISSIPPI

Wildcats	9	..	5	4	..	165
Total	9	..	5	4	..	165
Total Eastern States	313	143	107	63	4,692	284¾
Total Production Eastern States						3,637,500

OKLAHOMA

Caddo	12	10	1	1	3,720	8
Carter	13	11	1	1	8,305	¾
Cherokee	1	..	..	1	..	..
Cotton	3	..	..	3	..	..
Creek	12	6	2	4	445	5
Garfield	3	2	..	1	395	..
Grady	3	..	3	..	..	34
Grant	2	..	..	2	..	..
Haskell	2	..	..	2	..	..
Hughes	1	..	1	..	..	44
Kay	2	1	..	1	59	..
Latimer	1	..	1	..	..	20
Lincoln	7	2	1	4	2,852	3½
Marshall	2	..	..	2	..	..
Muskogee	11	2	2	7	50	8½
Noble	1	..	..	1	..	..
Okfuskee	5	4	..	1	555	..
Oklahoma City	88	84	1	3	608,995	754
Okmulgee	5	1	4	..	2	11¼
Osage	11	6	..	5	225	..
Pawnee	6	2	1	3	17	1¾
Payne	4	1	..	3	875	..
Pittsburg	2	..	2	..	..	36
Pontotoc	1	..	..	1	..	..
Pottawatomie	10	6	..	4	1,945	..
Seminole	17	9	1	7	6,870	30
Stephens	4	1	..	3	12	..
Tulsa	1	1	..	..	5	..
Wagoner	2	1	..	1	20	..
Woodward	1	..	..	1	..	..
Total	233	150	21	62	635,377	956¾

KANSAS

Barber	1	..	1	..	..	1
Butler	6	4	..	2	360	..
Chase	1	..	..	1	..	..
Cowley	7	4	..	3	1,045	..
Elk	1	1	..	..	200	..
Ellis	1	..	..	1	..	..
Greenwood	11	5	1	5	955	1½
Marion	3	1	1	1	180	1½
McPherson	5	3	..	2	3,235	..
Morris	2	..	1	1	..	½
Morton	6	..	6	..	..	42½
Pawnee	2	..	..	2	..	..
Reno	2	..	..	2	..	..
Rice	4	1	..	3	400	..
Russell	4	..	..	4	..	..
Sedgwick	7	6	..	1	5,584	..
Stafford	1	..	..	1	..	..
Stevens	15	..	15	..	..	98½
Sumner	4	3	..	1	282	..
Woodson	4	..	1	3	..	¼
Total	87	28	26	33	12,241	145¾

KANSAS PRODUCTION SUMMARY

	Barrels
Greenwood	560,300
Florence	23,000
Peabody	74,450
Eldorado	414,300
Augusta-Fox Bush	81,500
Rainbow Bend	32,350
Voshell	2,997,750
Russell	93,900
Churchill	111,250
Oxford	76,350
Sedgwick	659,700
Others	1,075,000
Total	3,491,850

OKLAHOMA PRODUCTION SUMMARY

Braman	97,300
Blackwell	89,350
Hubbard	42,650
Thomas	20,150
Tonkawa	189,800
Garber	137,150
Burbank	464,500
Osage	756,300
Cushing	403,050
Yale	225,250
Davenport	35,150
Bristow	453,950
North Okmulgee	307,500
South Okmulgee	208,300
Cromwell	222,650
Papoose	77,350
Wewoka	111,850
Seminole	437,300
East Seminole	66,700
Bowlegs	444,250
Searight	222,400
Little River	749,650
East Little River	376,800
Earlsboro	643,000
East Earlsboro	515,750
Duncan	276,050
Graham	97,500
Fox	34,500
Healdton	356,850
Hewitt	210,650
Scholem-Alechem	415,700
Pearson	21,000
Oklahoma City	3,016,600
Mission	215,950
Carr City	254,150
Asher	36,800
Sasakwa	150,100
St. Louis	720,150
Allen	452,300
Maud	95,400
Logan	138,000
West Asher	224,400
South Earlsboro	289,050
Konowa	514,750
Others	1,950,900
Total	16,768,900

CALIFORNIA

	Completions	Producers	Gas wells	Failures	Initial Production Oil	Initial Production Gas*
Athens	1	1	..	..	1,200	..
Elwood	4	4	..	..	30,600	..
Huntington Beach	1	1	..	..	130	..
Kettleman Hills	1	1	..	..	7,000	..
Long Beach	14	14	..	..	5,390	..
Maricopa Flats	3	3	..	..	575	..
Midway-Sunset	1	1	..	..	50	..
Playa del Rey	18	18	..	..	14,775	..
Rincon	1	1	..	..	275	..
Round Mountain	2	2	..	..	600	..
Santa Barbara Mesa	1	1	..	..	200	..
Santa Fe Springs	4	4	..	..	900	..
Ventura	1	1	..	..	600	..
Wildcats	10	..	..	10	..	..
Total	62	52	..	10	62,295	..

CALIFORNIA PRODUCTION SUMMARY

	Barrels
Inglewood	512,000
Midway-Sunset	1,891,000
Ventura	1,411,200
Seal Beach	564,200
Elwood	1,135,300
Kettleman Hills	665,000
Santa Fe Springs	3,073,000
Huntington Beach	794,400
Dominguez	300,300
Playa del Rey	582,000
Long Beach	3,044,000
Others	4,149,500
Total	18,121,900

MOUNTAIN STATES PRODUCTION SUMMARY

WYOMING

	Barrels
Salt Creek	874,550
Grass Creek	62,350
Elk Basin	20,100
Big Muddy	59,500
Lost Soldier	154,450
Rock Creek	65,000
Lance Creek	3,700
Oregon Basin	65,900
La Barge	54,550
Others	168,000
Total	1,528,100

MONTANA

	Barrels
Cat Creek	33,650
Sunburst	178,000
Pondera	54,650
Others	2,000
Total	268,300

COLORADO

	Barrels
Moffats	34,800
Fort Collins	34,600
Florence	13,650
Others	47,000
Total	130,050

NEW MEXICO

	Barrels
Table Mesa	3,000
Artesia	21,000
Hogback	12,350
Rattlesnake	38,150
Bal. Lea and Eddy Counties	1,309,000
Others	6,700
Total	1,390,200
Total Mountain States	3,316,650

ARKANSAS PRODUCTION SUMMARY

	Barrels
El Dorado	121,500
Champagnolle	112,500
Smackover, Light	151,500
Smackover, Heavy	1,103,000
Stephens	27,000
Nevada	30,700
Lisbon	27,000
Others	34,200
Total	1,607,400

ARKANSAS

	Completions	Producers	Gas wells	Failures	Initial Oil	Production Gas*
Ouachita	4	4	..	..	137	..
Union	6	5	..	1	464	..
Wildcats	2	..	..	2	..	..
Total	12	9	..	3	601	..

NORTH LOUISIANA

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*	Total Prod.
Bellevue	..	..	..	..	..	..	56,800
Bossier	7	1	3	3	20	15½	..
Caddo	2	2	..	..	30	..	351,600
Carterville	..	..	..	..	..	..	79,800
Cotton Valley	..	..	..	..	..	..	56,100
De Soto-Red River	..	..	..	..	..	..	90,500
Haynesville	..	..	..	..	..	..	146,450
Holly	..	..	..	..	..	..	31,600
Homer	..	..	..	..	..	..	103,600
La Salle	2	2	..	..	65	..	..
Morehouse	1	..	1	..	..	4	..
Ouachita	2	..	2	..	..	8½	..
Richland	12	..	11	1	332	..	..
Sabine	3	2	..	1	20	..	..
Union	2	..	2	..	..	3	..
Urania	..	..	..	..	..	..	157,850
Webster	4	3	..	1	95	..	..
Zwolle	..	..	..	..	..	..	135,450
Wildcats	19	4	3	12	941	99	..
Others	..	..	..	..	..	..	52,500
Total	54	14	22	18	1,503	130	1,262,450

LOUISIANA GULF COAST

	Completions	Producers	Gas wells	Failures	Initial Oil	Prod. Gas*	Monthly Prod.
Bayou Bouillon	..	..	..	..	..	..	5,750
Bayou Choctau	2	..	..	2	..	..	..
Black Bayou	1	..	..	1	..	..	..
Carenco	1	..	..	1	..	..	..
East Hackberry	2	2	..	..	3,700	..	79,050
Edgerly	1	..	..	1	..	..	12,000
Evangeline	1	1	..	..	250	..	63,600
Hackberry	1	..	..	1	..	..	30,650
Jefferson Island	1	..	..	1	..	..	..
Lake Barre	..	..	..	..	..	..	32,150
Lockport	..	..	..	..	..	..	79,650
New Iberia	1	..	..	1	..	..	..
Port Barre	1	1	..	..	135	..	104,100
Sorrento	..	..	..	..	..	..	2,500
Sulphur	..	..	..	..	..	..	91,050
Sweet Lake	..	..	..	..	..	..	35,350
Vermilion Bay	1	..	..	1	..	..	..
Vinton	2	2	..	..	5,000	..	183,800
White Castle	..	..	..	..	..	..	33,950
Wildcats	1	..	..	1	..	..	..
Others	..	..	..	..	..	..	41,000
Total	16	6	..	10	9,085	..	794,600
Total Louisiana	70	20	22	28	10,588	130	2,057,050

TEXAS GULF COAST

	Completions	Producers	Gas wells	Failures	Initial Oil	Prod. Gas*	Monthly Prod.
Allen	1	..	..	1	..	..	..
Barbers Hill	5	5	..	..	2,200	..	536,150
Batson	4	3	..	1	38	..	34,500
Big Creek	..	..	..	..	..	..	102,950
Blue Ridge	..	..	..	..	..	..	61,400
Boling	..	..	..	..	..	..	28,800
Clay Creek	1	1	..	..	900	..	72,100
Damon Mound	..	..	..	..	..	..	20,150
Danbury	2	..	..	2	..	..	..
Esperson Dome	3	3	..	..	675	..	90,800
Fannett	..	..	..	..	..	..	21,000
Goose Creek	..	..	..	..	..	..	134,900
Hankamer	..	..	..	..	..	..	50,700
High Island	1	..	..	1	..	..	..
Hull	2	2	..	..	460	..	257,900
Humble	6	5	..	1	2,690	..	586,400
North Dayton	2	2	..	..	2,000	..	36,700
Orange	1	1	..	..	1,000	..	66,300
Orchard	..	..	..	..	..	..	65,300
Pettus	13	6	4	3	1,030	95	233,850
Pierce Junction	3	3	..	..	1,100	..	335,050
Port Neches	..	..	..	..	..	..	44,000
Raccoon Bend	..	..	..	..	..	..	361,750
Refugio	10	8	..	2	2,780	..	857,900
Salt Cedars	1	..	..	1	..	..	..
Saratoga	2	2	..	..	28	..	33,350
Sour Lake	..	..	..	..	..	..	66,300
South Liberty	2	..	..	2	..	..	102,450
Spindle Top	3	2	..	1	330	..	471,000
Stratton Ridge	1	..	..	1	..	..	..
Sugar Land	..	..	..	..	..	..	360,900
West Columbia	2	2	..	..	45	..	125,250
Wildcats	4	..	..	4	..	..	..
Others	..	..	..	..	..	..	73,150
Total	69	45	4	20	15,276	95	5,231,000

TEXAS PANHANDLE

	Completions	Producers	Gas wells	Failures	Initial Oil	Prod. Gas*	Monthly Prod.
Carson	4	..	4	..	..	84	220,650
Collingsworth	1	..	..	1	..	..	..
Gray	18	15	2	1	10,705	116	1,747,800
Hutchison	4	2	2	..	150	68½	544,200
Moore	4	2	1	1	345	40	..
Potter	2	..	2	..	..	10½	..
Wheeler	9	1	6	2	72	203½	17,250
Others	..	..	..	..	..	..	12,600
Total	42	20	17	5	11,272	522½	2,542,500

TEXAS RECAPITULATION

	Completions	Producers	Gas Wells	Failures	Initial Production Oil	Initial Production Gas*	Monthly Production
Panhandle	42	20	17	5	11,272	522½	2,542,500
Southwest	50	43	4	3	21,402	96	2,837,400
North	46	18	..	28	583	..	1,977,800
East	1	..	1	..	.....	¾	.....
West	47	34	..	13	11,969	1½	8,088,650
East Central	31	22	..	9	43,676	...	1,246,650
West Central	102	35	6	61	3,147	27¼	1,485,500
Total (outside Gulf Coast)	319	172	28	119	92,049	648	18,178,500
Texas Gulf Coast	69	45	4	20	15,276	95	5,231,000
Total Texas	388	217	32	139	107,325	743	23,409,500

*Millions of cubic feet.

SOUTHWEST TEXAS

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*	Total Prod.
Bexar	4	4	..	..	37	..	..
Chapman	2	2	..	..	1,085	..	278,050
Dale	..	..	..	..	..	..	9,000
Darst Creek	17	17	..	..	17,970	..	1,272,400
Duval	3	2	..	1	415	..	...
Laredo District	..	..	..	..	..	..	408,050
Live Oak	1	..	..	1	..	..	..
Luling	..	..	..	..	..	..	287,000
Lytton Springs	..	..	..	..	..	..	25,850
Salt Flat	..	..	..	..	..	..	495,000
Somerset	..	..	..	..	..	..	45,600
Webb	3	..	3	..	..	71	..
Williamson	5	4	..	1	875	..	..
Zapata	15	14	1	..	1,025	25	..
Others	..	..	..	..	..	..	16,450
Total	50	43	4	3	21,402	96	2,837,400

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We gladly furnish samples to try.

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Bridgeport, Connecticut
Makers of Lock Nuts since 1900

NORTH TEXAS

	Completions	Producers	Gas Wells	Failures	Initial Oil	Prod. Gas*	Total Prod.
Archer	16	3	..	13	37	..	419,900
Baylor	5	2	..	3	90	..	..
Burkburnett	..	..	..	..	..	..	234,950
Clay	1	1	..	..	30	..	..
Cooke	6	4	..	2	191	..	*
Electra	..	..	..	..	..	..	317,650
Grayson	1	..	..	1	..	..	..
KMA-Iowa Park	..	..	..	..	..	..	144,900
Montague	5	1	..	4	25	..	285,350
Wichita	10	6	..	4	175	..	..
Wilbarger	2	1	..	1	35	..	518,350
Others	..	..	..	..	..	..	56,700
Total	46	18	..	28	583	..	1,977,800

*Included with Montague.

WEST CENTRAL TEXAS

Brown	4	2	1	1	30	6¾	168,800
Callahan	5	3	..	2	22	½	92,850
Coleman	12	3	1	8	367	2	83,450
Comanche	3	1	1	1	15	2	..
Eastland	6	4	..	2	435	2	161,050
Jack	1	..	..	1	..	..	68,100
Johnston	1	..	..	1	..	..	..
Palo Pinto	3	..	2	1	..	3¾	14,150
Shackleford	5	2	..	3	30	..	204,350
Stephens	4	2	1	1	305	10	160,500
Throckmorton	1	..	..	1	..	..	21,300
Young	57	18	..	39	1,943	¼	468,350
Others	..	..	..	..	..	..	42,600
Total	102	35	6	61	3,147	27¼	1,485,500

EAST CENTRAL TEXAS

Boggy Creek	..	..	..	..	..	..	80,150
Corsicana-Powell	..	..	..	..	..	..	166,350
Currie	..	..	..	..	..	..	11,750
Mexia	..	..	..	..	..	..	129,300
Morris	1	..	..	1	..	..	..
Nigger Creek	..	..	..	..	..	..	5,350
Richland	..	..	..	..	..	..	5,150
Van Zandt	23	22	..	1	43,676	..	827,300
Wortham	..	..	..	..	..	..	21,100
Wildcats	7	..	..	7	..	..	..
Total	31	22	..	9	43,676	..	1,246,650

EAST TEXAS

Panola	1	..	1	..	..	¾	...
Total	1	..	1	..	..	¾	...

WEST TEXAS

Crane	5	5	..	..	982	..	1,052,550
Crockett	..	..	..	..	....	..	65,150
Ector	9	9	..	..	3,613	..	242,850
Howard	1	1	..	..	17	..	689,550
Jones	..	..	..	..	..	..	40,200
Loving	3	3	..	..	1,200	..	.....
Mitchell-Scurry	1	1	..	..	85	..	65,650
Pecos	8	6	..	2	2,282	1½	102,200
Reagan	..	..	..	..	..	..	677,250
Ward	5	4	..	1	3,215	..	.....
Winkler	1	1	..	..	225	..	1,932,550
Yates	..	..	..	..	..	..	3,068,400
Wildcats	14	4	..	10	350	..	.....
Others	..	..	..	..	..	..	152,300
Total	47	34	..	13	11,969	1½	8,088,650

*Millions of Cubic Feet.

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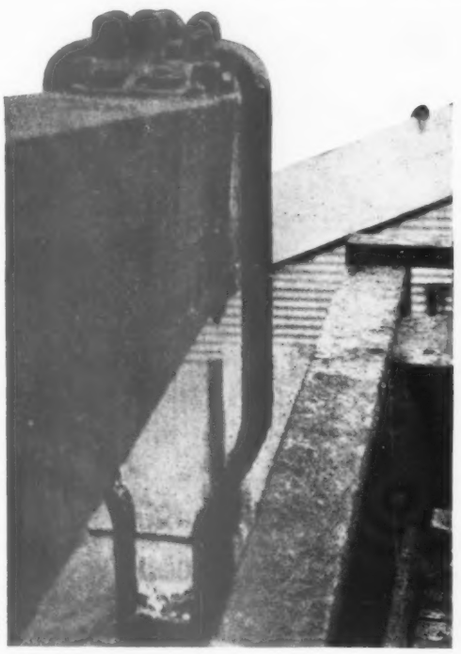

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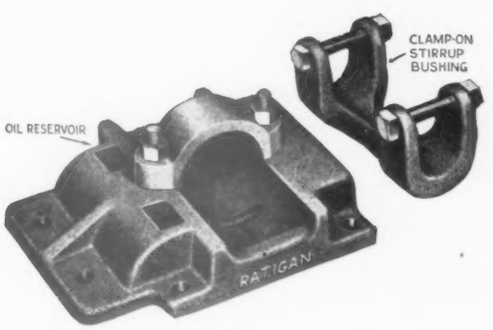

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The New Beaver 3-Way Die Stocks are "companion tools" to the popular No. 3 Beaver Jr. Ratchet, the dies and caps being interchangeable.

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Die Stocks
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COMPLETIONS FOR PAST WEEK IN U.S. FIELDS

CALIFORNIA

Company, Well and Location	Initial Production Bbls.	Depth
LONG BEACH—		
Apache Oil Co., No. 1	150	6685
Dabney-Johnston Oil Corp., No. 32	100	7401
A. T. Jergins, Municipal 19	100	4895
M. & A. Oil Co., Painted Hills 1	1100	6895
Pan-Pacific Oil Co., Dunlap 3	100	6765
K. G. Pullian, Jr., No. 3	1000	7480
S. S. Wortley, No. 2	1500	7495
MARICOPA FLAT—		
Standard Oil Co., 5K-60	120	3020
Maricopa Star Oil Co., No. 9	150	1815
PLAYA DEL REY—		
J. L. Clarke, No. V-1	750	6220
El Camino Oil Co., Venice 1	300	6185
George F. Getty, No. 3	600	4185
Major Lang, No. 1	1000	6060
Pacific Shore Oil Co., Strain 2	400	4505
VENTURA—		
Associated Oil Co., Lloyd 51	300	7100

OKLAHOMA

Company, Well and Location	Initial Production Bbls.	Depth
BECKHAM COUNTY—		
Ramsey Pet. Co., et al, Franklin 1, c ne ne 27-9-23w	¶25	2620
COMANCHE COUNTY—		
Ashcraft & Ponder, Wiseman 1, ne c 29-2n-10w	1	836
CREEK COUNTY—		
Olean Pet. Co., Bigpon 4, nw se ne 36-15-7e (owdd)	¶35	3229
Gilcrease Oil Co., Bright 1a se c 26-17-9e	¶2	560
O. M. Ireland, Smith 3, cwl ne se 11-17-10e	5	1945
Jenkins & Atlantic Oil Prod., Kimble-Reading 2, nw c sw 23-14-10e	*	3331
HUGHES COUNTY—		
Independent O&G, Jackson 2, ne se se 17-7-8e	*	3275
McINTOSH COUNTY—		
Deep Fork Oil Co., Williams 2, c se ne 35-12-14e	¶¾	712
Williams 1, c se se 35-12-14e	*	760
MUSKOGEE COUNTY—		
I.T.I.O., Lacey 1, c se nw 31-12-19e	¶1½	721
Hoover Brothers, Drew 1, sw ne se 17-15-18e	¶¼	1226
C. E. Creager, Townlot 2, c ne nw 35-15-18e	*	1185
OKFUSKEE COUNTY—		
Wells et al, Fields 2, nw c sw nw 13-10-11e	20	2160
Baroda Oil Co., Adams 3, csl sw ne 23-11-11e	10	2404
OKLAHOMA COUNTY—		
Wirt Franklin Pet. Corp., Page 4, sw se se 35-12-3w (16H)	2707	6280
I.T.I.O., Jones 14 se sw nw 31-11-2w	19615	6450
Sinclair O&G, Vencl 13, nw se se 31-11-2w (16H)	430	6380
I.T.I.O., et al, Phillips 1, csl se nw sw 1-11-3w (16½H)	11055	6400
Wirt Franklin Pet. Corp., Thiemer 12, nw ne se 2-11-3w (16H)	3865	6162
Tom Slick Oil Co., Harrison 1, ne c 10-11-3w (16H)	1895	6317
I.T.I.O., et al, Coppinger 3, se ne nw 11-11-3w (16H)	525	6300
Corff 2, sw se sw 11-11-3w (16H)	815	6325
Ferndale Community 5, se nw ne 11-11-3w (16H)	2550	6285
Funk 1, sw se ne 11-11-3w (16H)	6035	6345
Starkey 2, sw ne se 11-11-3w (16H)	4200	6160
Wirt Franklin Pet. Corp., Lowrey 10, ne nw nw 12-11-3w (16H)	10300	6293
Lowrey 11, ne c nw 12-11-3w (16H)	3600	6432
I. T. I. O. et al, Carrico 4, ne nw nw 14-11-3w (16H)	3670	6400
Carrico 5, nw c 14-11-3w (16H)	1400	6370
Unsell 5, nw sw ne 23-11-3w (16H)	740	6340
Coline Oil Co., Olds 8, c nw 24-11-3w	540	6290

Tabulation and Comparison on Page 168

Company, Well and Location	Initial Production Bbls.	Depth
OKMULGEE COUNTY—		
Rossiter Oil Co., Burgess 5, sw ne nw 20-12-13e	¶1	1105
F. D. Misener, Colbert 4, sw c nw ne sw 14-14-14e	12	1044
OSAGE COUNTY—		
A. G. Oliphant, 2, sw se ne 10-21-8e	100	2354
I.T.I.O., 436, sw ne se 6-26-12e	¶7	1540
Turman Oil Co., 1, sw c nw 11-21-8e	*	3015
PAWNEE COUNTY—		
Williams et al, Kinney 1, cnl ne ne 2-20-8e	10	2340
Hay et al, Copelan 7, csl nw sw 26-20-9e	40	2150
Nadine Oil Co., Martin 6, cnl sw ne 7-20-8e	*	3115
PAYNE COUNTY—		
Comail Oil Co., Driggs 1, nw sw ne 30-18-5e	5	3790
PITTSBURG COUNTY—		
Central States Light & Power Co., Koehler 1, nw sw sw 11-7-18e	¶14	1810
POTTAWATOMIE COUNTY—		
The Texas Co., Ogee 1, ne se ne 17-8-5e	100	3998
J. H. Gwin et al, Coley 2, sw se se 24-7-4e	370	4141
Wilcox O&G, Warren 5, sw ne sw 23-6-3e	195	3481
Deep Rock Oil Corp., Gibson 1, sw c se 23-6-3e	520	3458
Clark & Cowden, Townlot 2, nw c se sw nw 8-9-5e	*	4393
SEMINOLE COUNTY—		
Empire O&R et al, Fish 1 "D" ne se se 19-7-8e	1000	3060
Carter Oil Co., Coker 6, se ne sw 2-8-5e	2250	4210
W. B. Pine, Cheparney 4, nw c ne 20-6-6e	470	2924
Crosbie & Moran, Caesar 1, nw sw nw 28-6-6e	*	3705
TEXAS COUNTY—		
Argus Prod. Co., Parker 1, c nw 18-6-15e c.m.	¶2¾	2760
WAGONER COUNTY—		
Lapierre, Carter 1, nw c sw ne sw 34-17-16e	¶5½	823
Cherokee Public Service Co., Vernor 1, (owdd) nw c se se ne 35-16-17e	*	924
O. A. Reed, Perryman 1, nw c ne ne 36-16-18e	*	980
Brashears, Darnet 1, cwl sw, 12-17-17e	*	325
F. E. Webb et al, Cruel 1, cel ne ne 31-17-17e	*	1451
Omega Oil Co., Weldon 2, se c ne 35-17-17e	*	1453

KANSAS

Company, Well and Location	Initial Production Bbls.	Depth
BARBER COUNTY—		
Barbara Oil Co., Hamblin 1, c sw nw 24-33-13w	¶12½	4487
Phillips Pet. Co., Powell 1, c se se 11-32-10w	*	4868
BUTLER COUNTY—		
Empire O&R, Brandenberger 10 "A" ne c 22-27-5e	225	2743
E. W. Marland Inc., Anderson 1, sw c ne 6-27-4e	300	2916
Gypsy Oil Co., Osborne 1, nw c se 22-26-3e	*	3106
CHAUTAUQUA COUNTY—		
Leighty et al, Garr 1, c nw se 5-33-9e	¶2	1349
COFFEY COUNTY—		
McGregory et al, Wood 1, ne nw ne sw 20-22-15e	*	600
COWLEY COUNTY—		
Roth & Faurot, Grant 1, se sw ne 12-32-4e	500	2570
FRANKLIN COUNTY—		
Empire O & R, Brown 1, c se se 34-15-18e	¶2½	1148
GREENWOOD COUNTY—		
Beacon Oil Co., Weirshing 7, se nw nw 24-27-9e	10	2130
Shull Drilling Co., Allis 3, se c nw 17-24-13e	15	1604
Mid-Continent Pet. Corp., Hout 6, cwl se sw 11-24-12e	20	1723
Phillips Pet. Co., Beal 6, sw ne ne 28-23-11e	200	1884
MARION COUNTY—		
Youker & Phillips Pet. Co., Riffel 1, nw c 14-17-4e	75	2328
McPHERSON COUNTY—		
Tom Palmer et al, Winn 1, nw sw nw 7-20-1w	3310	2935
RICE COUNTY—		
Boucher Oil Co., Boy 1, (owdd) sw c 16-21-10w	*	3434
Solar Oil Co., et al, Brandenstein 1, c sw 10-19-10w	*	3414
RUSH COUNTY—		
Flynn et al, Mohr 1, c sw 2-18-16w	*	3763
SEDGWICK COUNTY—		
Blankenship Pet. Co., Shaffer 2, se ne nw 30-27-2e	600	2956
Derby Oil Co., Eastborough 2, se sw ne 19-27-2e	515	2974
Eastborough 1 "A" se c sw 19-27-2e	185	2971
National Refining Co., Murdock 1, sw se se 18-27-2e	680	2953
W. C. Newman, Inc., Bally 1, se nw ne 2-27-2e	*	3355
STEVENS COUNTY—		
Missouri-Kansas Pipe Line Co., et al Parson 1, c nw 4-31-37w	¶43¼	2605
Argus Prod. Co., Sherwood 2, c sw 33-33-37w	¶4	2624
Missouri-Kansas Pipe Line Co. et al, Crawford 1, c nw 36-33-38	¶43½	2610
Argus Prod. Co., Redpath 1, c se 27-34-37w	¶5½	2617
Gibbons 1, c se 29-34-37w	¶2½	2647
Ratcliffe Fee 1, c ne 7-34-38w	¶2½	2646
Ratcliffe Fee 2, c se 7-34-38w	¶2¾	2669
Wiley 1, c ne 4-35-37w	¶4½	2609
Hedrick 1, c nw 9-35-37w	¶5	2627
Missouri-Kansas Pipe Line Co., Kelly 1, se c nw 16-34-38w	*	1329
SUMNER COUNTY—		
Schwartz et al, Boyer 1, se sw ne 36-31-2e	*	1933
WOODSON COUNTY—		
Derby Oil Co., et al, Guy 2, ne nw sw 29-23-15e	*	1620

EASTERN STATES

INDIANA

Company, Well and Location	Initial Production Bbls.	Depth
PIKE COUNTY—		
Blue Bird Oil Co., Phillips 3	4	1031
Wiser Oil Co., W. Phillips 7	35	1367
H. C. Darby & Co., Stewart 5	*	1337
VIGO COUNTY—		
The Ohio Oil Co., Piety 1	48	2244
SULLIVAN COUNTY—		
Dome Gas Co., Campbell 1	*	700

ILLINOIS

Company, Well and Location	Initial Production Bbls.	Depth
CRAWFORD COUNTY—		
Watson & Co., Newlin 4	50	1015
Gust Lowery & Co., Akeman No. 2, tr. 2	1	1000

MICHIGAN

Company, Well and Location	Initial Production Bbls.	Depth
ISABELLA COUNTY—		
The Pure Oil Co., Willie 1	¶13	....
Dixie Oil Co., Nora Davis 7	370	3585
Wittmer Properties Trus., Smith 2	200	....
Chartiers Oil Co., Wesche 2	*	3561
MUSKEGON COUNTY—		
White River Oil Corp., Lipke 5	*	1700
Mid-West Oil Co., Moch Hrs. 2	25	....
Valek Oil Co., Valek 1	*	2003
WEXFORD COUNTY—		
Marble-Cowe Oil Co., Smith 1	*	3952
BARRY COUNTY—		
Muskegon Development Co., Hughes 1	*	1925

WEST VIRGINIA

Company, Well and Location	Initial Production Bbls.	Depth
GILMER COUNTY—		
Bowser Oil Co., Mitchell 6	¶1	2137
West Virginia Gas Co., Drain 1	¶8	1905
A. E. Ellis & Co., Moore-Miller 1	*	2157
KANAWHA COUNTY—		
Winifrede Co., Winfrede 1	¶¼	2104
Kendall Oil & Gas Co., Kendall 1	¶½	2256
WOOD COUNTY—		
C. C. McKinley & Co., Hively 1	1	....
Sweeny Bros., Athey 1	10	1277
CLAY COUNTY—		
Virginian Gasoline & Oil Co., Brown-Swan 4269	25	1890
CALHOUN COUNTY—		
Richter & Co., Haught 5	20	1734
Southeast Gas Co., McCoy 4	¶¼	2180
MONONGALIA COUNTY—		
Luton Bros., Shriver 1	1	3288
MINGO COUNTY—		
United Fuel Gas Co., Cotige Dev. Co. 4240	*	3810
CABELL COUNTY—		
Ortman & Shipe, Houchin 1	*	3452

KENTUCKY

OHIO COUNTY—		
James C. Ellis & Co., Hoover 7	100	....
Hoagland No. 2, tr. 7	100	....
Brenner & Adams, Bellamy 3	10	....
The Ohio Oil Co., Purcell 1	5	....
Hartford Development Co., Westerfield 3	6	....
Wood Oil Co., Burdette Hrs. 2	¶1	....
J. R. Pointer & Co., Lyons 1	¶¼	....
Hall & Garrison, Russell 1	¶½	....
Cumberland Petroleum Co., Brown 2	*	....
DAVIESS COUNTY—		
Leeper Oil Co. & Co., Bennett 2	*	....
HANCOCK COUNTY—		
D. T. Bolling, Richards 2	*	....
Chester Oil Co., Bates 1	¶2	....
HENDERSON COUNTY—		
Washman & King, Latta-Yeaman 1	*	....
Clarks Hill Drilling Co., Nasket 3	5	....

CENTRAL OHIO

ASHLAND COUNTY—		
Robinson & Co., Sherif 1	*	644
Ohio Fuel Gas Co., Howell 1	¶¼	....
Keener 1	*	....
Gardner 1	*	....
LICKING COUNTY—		
I. C. Robinson, Kidd 1	10	3004
Ohio Fuel Gas Co., Ashcraft 1	*	2976
Settles Oil Co., Wright 1	16	588
HOLMES COUNTY—		
East Ohio Gas Co., Sterling 6	11	3496
Ohio Fuel Gas Co., Phillips 1	¶6	....
Close 2	*	....
KNOX COUNTY—		
The Preston Oil Co., Rine 2	110	3080
Poorman & Co., Miller 4	*	....
ATHENS COUNTY—		
Ohio Fuel Gas Co., Fleming 3	¶¼	1445
Ruth 1	¶½	666
LORAIN COUNTY—		
Ohio Fuel Gas Co., Bruce 1	¶1	....
Wiser Oil Co., Conway 1	¶½	2410
PERRY COUNTY—		
Ohio Fuel Gas Co., Alwin 1	*	3480
Ruster 1	¶¼	3104
MUSKINGUM COUNTY—		
The Pure Oil Co., McKee 3	235	3025
BELMONT COUNTY—		
M. Fulton & Co., Skinner 1	3	1357
TUSCARAWAS COUNTY—		
Ohio Fuel Gas Co., Hart 1	¶⅝	3615
MEDINA COUNTY—		
Ohio Fuel Gas Co., Long 1	¶¼	....
STARK COUNTY—		
Kime & Co., Brookside Country Club 1	¶½	4450
ASHTABULA COUNTY—		
Ohio Fuel Gas Co., Dunnick 1	*	3075
WAYNE COUNTY—		
Ohio Fuel Gas Co., McAfee 1	*	....
SUMMITT COUNTY—		
Eagon & Co., Harring 3	*	3644
HOCKING COUNTY—		
Ohio Fuel Gas Co., Garett 1	*	2195

NORTHWESTERN OHIO

SENECA COUNTY—		
Barnaby & Co., Feigelist 1	¶¼	1845

SOUTHEASTERN OHIO

Company, Well and Location	Initial Production Bbls.	Depth
MONROE COUNTY—		
Shay McMullen, Cronin 1	5	2000
Gerber & Myers, Ball 5	¶¼	1450
NOBLE COUNTY—		
Clay & Harper, McMahan Hrs. 2	2	726
Ohio Fuel Gas Co., McClintock 1	¶¾	1088
COLUMBIA COUNTY—		
W. R. Thompson, Hartman 1	*	400
Sanor 1	*	750
MORGAN COUNTY—		
Ohio Fuel Gas Co., Williams 1	¶¾	....
MAHONING COUNTY—		
Natural Gas Co. of W. Va., Cobbs 1	1	638

SOUTH TEXAS

DARST CREEK—		
Gulf Prod. Co., Cercy Anderson 3	1600	2585
Knoblock 3	2180	2500
Posey-Baker 8	1190	2568
Magnolia Pet. Co., Annie Knodle 3	400	2590
Sun Oil Co., Knoblock 12	2500	2496
Texas Co., Knoblock 5-A	400	2490
Knoblock 10-B	1350	2495
Knoblock 11-B	500	2565
JIM HOGG COUNTY—		
South Texas Prod. Co., Hinnant 1	¶5½	2071
STARR COUNTY—		
Los Olmos Oil Co., Kesley-Boss 1	¶15	200
ZAPATA COUNTY—		
Alamo Drilling & Leasing Co., Trevino 5	15	1285
Nix & Blankenship, Montemayor 5	65	1266
W. R. Shankle, Guittierez 5	70	1257
Trevino 9-M	90	1270

ARKANSAS

OUACHITA COUNTY (Smackover)—		
J. E. Crosbie, Inc., Sewell 9, 33-15-15	15	2307

NORTH LOUISIANA

OUACHITA PARISH (Monroe)—		
Greenwood Prod. Co., White 1, 36-19-3e	¶2½	2171
Industrial Gas Co., Fee 3, 6-18-4e	¶2¼	2187
RICHLAND PARISH—		
Southern Carbon Co., Thompson et al 1, 23-16-6e	¶26	2450
UNION PARISH—		
Industrial Gas Co., Grayling 6, 33-21-4e	¶8¼	2113
WEBSTER PARISH (Sarepta)—		
H. M. Jones Drilling Co., T. R. Cook 2, 2-22-11	25	2727

SOUTH LOUISIANA

EAST HACKBERRY—		
Calcasieu Oil Co., Caldwell 6	*	4724
BAYOU CHOCTAU—		
Tex. Gulf Sulphur Co., Wilbert 2	*	1800
HACKBERRY—		
Yount-Lee Oil Co., Portier 2	*	5205
EVANGELINE—		
Heywood & Heywood, Jennings 1	210	1790
JEFFERSON ISLAND—		
Jefferson Lake Oil Co., Lake Pieg-neur 9	*	820
LAKE GRANDE ECAILLE—		
Humble, Cockrell-Moran 3, Sec. 1-21s-26e	*	1560
ROANOKE—		
Vacuum, DeVilbiss 1-A, 11-9s-4w	*	5125
SWEET LAKE—		
Magnolia, Sweet Lake Ld. Co. 1, Sec. 36-12s-8w	*	7510
VINTON—		
Gulf, J. W. Gardiner Est. et al 4	2150	3625

TEXAS GULF COAST

ALLEN DOME—		
Mills Bennett Prod. Co., Poole 1	1550	4378
BARBERS HILL—		
Humphreys Corp., Kirby A-9	1985	6407
Mills Bennett, Barber 3	1400	5147
Sun Oil Co., Wilburn Fee 10	725	5274
McAlbert Oil Co., Woodward 5	150	5249
BATSON—		
Ada Belle Oil Co., Sun 142	30	1160
CLAY CREEK—		
Sun Oil Co., Witte 4	250	1335
HULL—		
Republic Prod. Co., Dolbear 31	50	2490
Dolbear 117, dd	70	2550
Empire, Barngrover 28	30	3138
HUMBLE—		
Rio Bravo Oil Co., Fee 7	90	4203
MYKAWA—		
Humble, Minnetex 3	560	4873
PETTUS—		
Humble, McKinney 7	250	3861
S. R. C. Oil Co., Townsite 1, Blk 22	800	3910
Houston Oil Co., Matthews 1, Blk 32	¶20	3913
Union Prod. Co., Ray 18	130	3927
Ray 21	¶30	3887
Ray 17	*	4568
E. M. Jones, Rapp 2	*	3126
Nichols Oil Corp., Hicks 4	¶5	4512
Trinity Drillers & T. B. Slick, Theis 1, R. S. Barnes sur	*	5245
PIERCE JUNCTION—		
Tilton et al, Gulf-Jones Fee 1	1100	3777
Mike Kouri, Bender 1-A	*	850
RACCOON BEND—		
Humble, Fritz Lamp 1, 3½ mi sw production	*	5411
Paine 10	310	3438
Diemar 3	230	3500
REFUGIO—		
Saxet Oil Co., Ryals 3	250	5760
Pearson Properties, Ryals 3	25	5760
Larcro Gas & Pet. Co., Strauch 6	300	3685
Houston Oil Co., Johnson 1, Blk 63	25	5629
Ed Price, Mission River 1	150	3663
BIG CREEK—		
Gulf, T. W. Davis 60	1000	3700
SARATOGA—		
Rio Bravo Oil Co., Cotton 91-A	85	500
Cotton 94-A, dd	80	520
SPINDLE TOP—		
Yount-Lee Oil Co., McFadden 17,dd	15	4100
McFadden 92, dd	180	3575
McFadden 141	225	3749
SOUTH LIBERTY—		
Empire, Goggan 13,	*	4596

NORTH TEXAS

ARCHER COUNTY—		
Beard & Hammond, Inc., Richardson 1	*	1360
Flake & Harmon, Bell 1-A	35	1142
Golding & Cochran, Richardson 1	25	1279
J. C. Hickernoll et al, Turbeville 1	25	1014
The Texas Co., Bloodworth 1	*	1332
CLAY COUNTY—		
Mid-Continent Holding Corp., Stine 8-A	30	1762
COOKE COUNTY—		
Deep Rock Oil Corp.-Faith Oil Corp., Perkins 1	10	1379
A. V. Grant et al, Dennis 2-B	35	1255
W. A. Graves et al, Carpenter 1	*	1635
Gulf Prod. Co., J. T. Donald 2	*	3195
BAYLOR COUNTY—		
Fain-McGaha Oil Corp., Portwood 1-H	*	1511
DENTON COUNTY—		
Deep Rock Oil Corp., Freeman 1	*	2227
WICHITA COUNTY—		
Lambert & L. E. Trout, Overby 8	60	1246
WILBARGER COUNTY—		
Southwestern Royalty Co., Waggoner 2-F	35	2454
YOUNG COUNTY—		
Geo. Alexander, Jr., et al, Jeffrey 1	*	1030
Brown et al, Morgan 1	*	660
F. E. Butler et al, Bellamy 1	*	641
Chandler Drlg. Co., Farmer 1	*	1032
J. T. Cloyes et al, Graham 1	*	475
Hill & Newman, Kunkel 1	*	1205
King Royalty Co. et al, Kirkland 1	*	730
Murphy Oil Co., Greer 1	*	1185
Nelson-Simpson & Young Bros., Jones 1	*	861
Petroleum Producers Co., Graham 3	205	696
Terrill et al, Bullock 1	*	651
Terrill & Wainwright, Bullock	1	702
Willis & Terrell, Jordan 1	*	700

TEXAS PANHANDLE

CARSON COUNTY—

Cities Service Gas Co., Burnett 27	..	¶27	2613
North American O&G Co., Burnett (Sec. 97) 1	.....	¶47	2534
Reiger & Stekol, C. R. Martin 1	....	¶21	3583

GRAY COUNTY—

Anderson & Bean, Thompson 1	....	480	3234
Gulf Prod. Co., R. B. Thompson 1	..	235	3240
Midwest Explo. Co., Cobb 1	.....	100	3322
Operators Roy. & Prod. Co., Harrah 3	.....	250	3225

HUTCHINSON COUNTY—

Huber Prod. Co., W. S. Christian 1		75	3023
Phillips Pet. Co., W. E. Herring 1	..	¶4¾	3075

ROBERTS COUNTY—

Big Bend Oil Co., Lederick 1	....	*	5992

WHEELER COUNTY—

Lone Star Gas Co., Purcell 1	....	¶37	1851

CENTRAL WEST TEXAS

CALLAHAN COUNTY—

Neeb & Wilson, Henderson 1	....	*	475

COLEMAN COUNTY—

Joines et al, Turner 1	.....	*	1537
Levi Smith et al, Switzer 4	.....	*	1468

EASTLAND COUNTY—

Texas Pacific Coal & Oil Co., F. A. Allen 1-C	.....	*	3258
Warner-Quinlan Co., Hitson 1	....	¶30	3735

PALO PINTO COUNTY—

Rott & Rhodes, Costello 3	.....	10	1426

STEPHENS COUNTY—

T. P. Coal & Oil Co., R. Q. Lee 5	..	¶2¾	2061

WEST TEXAS

ECTOR COUNTY—

Amerada Pet. Corp.-Skelly Oil Co., University 3-B	.....	340	3682

GLASSCOCK COUNTY—

E. L. Smith Oil Co., Coffee 1-B	...	960	2302

IRION COUNTY—

J. E. Bristow et al, Nutt 1	.....	65	1465

PECOS COUNTY—

Cardinal Oil Co., Tippett-Shell 1-F		150	318
Plymouth Oil Co., F. A. Perry 4	..	*	1788

REAGAN COUNTY—

Big Lake Oil Co., University 180	..	150	3051
University 4-C	.....	¶55¼-2940	8697

CENTRAL EAST TEXAS

VAN ZANDT COUNTY—

Humble O&R Co., R. S. Blake 3	..	3200	2933
L. A. Dowdle (40-ac) 1	.....	*	2987
Pure Oil Co., A. D. Clark (17-ac) 1		350	2912
J. T. Taylor 1	.....	6000	2953
Mrs. W. A. York (50-ac) 1	.....	3500	2914
M. F. Shirley (38-ac) 1	.....	5000	2951

NEW MEXICO

LEA COUNTY—

Continental Oil Co., State A-3	¶20-22,300		4208
State 2-B	.....	¶15-1630	4174
Midwest Ref. Co., A. Farnsworth 19		*	3877
Shell Pet. Corp., State 1-B	..	¶43-2690	4200
Tidal Oil Co., O. L. Coleman 1	..	1215	4147

Lack of Pipe Line Outlet Shows Development in Jackson Area

JACKSON, MISSISSIPPI.—Lack of pipe line outlets for the gas production of the Jackson field in Hinds and Rankin counties, which has 17 gassers, is reflected in the slowing up of activity there being but two new locations announced for the field during the last week. One of the new locations was by Jackson Oil and Gas Company in Section 12-5-1e and the other by Sabine Oil and Gas Company, a new entry in the field, for the other in Section 6-5-2e, both in Rankin County.

Residents of Jackson will vote on a gas franchise on October 20 which if it carries, will give a local outlet for the approximately 400,000,000 cubic feet daily open flow capacity of the field.

The State of Mississippi, through H. D. Moore, state land commissioner, has instituted suit for recovery of land in the basin of Pearl River which is the border line between Hinds and Rankin counties, against the City of Jackson. One gas producer, Gulf Refining Company's City of Jackson 1, Section 10-5-1e, is located on the land involved in the litigation.

A decision, which if made permanent, will prove beneficial to development in Mississippi, was given recently by three federal judges at New Orleans who held that Mississippi should be temporarily restrained from collecting a privilege tax on gas pipe lines within the state. A hearing on the merits of the case will be had later when it will be determined if the injunction shall be made permanent. The decision will have a very immediate and vital bearing on Southern Natural Gas Company which has its Atlanta-Monroe gas trunk line crossing the state with a recently completed lateral to Mobile, Alabama, and south Mississippi towns.

An accurate gauge of Pearl River Oil and Gas Company's Pate 1, Section 12-5-1e, Rankin County, which had been in dispute shows it to be good for 49,016,000 cubic feet of gas daily. A spring gauge welded into a joint of the 6⅝-inch casing registered 108 for 10 minutes with the well wide open. Flowing through a six-inch opening, the spring gauge figure of 108 on the Louisiana Department of Conservation's tables amounts to the figure of 49,016,000 cubic feet.

Millstein Oil and Gas Corporation, while running casing in Hartfield 1, SE NE Section 12-5-1e, froze the casing and in attempting to dislodge it pulled in the derrick. Southern Petroleum Company is drilling in Investment 1, Section 12-5-1e, in which casing had been set at 2385 feet.

Love Petroleum Company has abandoned Ridgeway 1, Section 2-5-1e, Hinds County, at 2488 feet after shooting the hole with 84 sticks of dynamite and getting a flow of fresh water. Midway shale was topped at 2367 feet and Midway chalk was encountered at 2455 feet at which point 6⅝-inch casing was set. Elevation was 270.6 feet.

Love Production Company's Crisler 1, NW SW Section 2-5-1e, has built up a gas production of about 6,000,000 cubic feet along with a flow of salt water and tubing is being run in the well, whose total depth is 2485 feet with elevation of 269.8 feet, Midway chalk having been topped at 2468 feet and shale at 2373 feet.

Ohio Oil Company is drilling below 1100 feet in its deep test, Cantrell 1, NE NE Section 16-15-5e, Clay County, northeast Mississippi. Mayfield and associates, operating under name of Vicksburg Oil and Gas Company, has taken over Dornbusch 1, Section 8-18-15, Warren County, Vicksburg district, and junked the old hole at 2475 feet in which drill stem was hung. The rig was skidded 100 feet south an another hole spudded to 90 feet and shut down.

Decision is expected soon by A. D. Morton relative to continuing or abandoning O'Neal Estate 1, Section 8-2s-13w, Lauderdale County, Alabama, now shut down at total depth of 2525 feet in white limestone with streaks of sand. He will decide whether to pull 8¼-inch casing at 2060 feet where it was set for the sixth time and go deeper or move to a new location about three miles away.

Ventura Development Slightly Off

Ventura, Calif.—Field activity at Ventura Avenue has shown a slight decline during the late summer months, but continuation of the present drilling program during the winter months is assured. Associated Oil Company and Shell Oil Company, principal operators are each drilling a dozen wells and will add enough production to maintain about the present potential. The latter has been completing wells in the shallow zone around 4500 feet, following a trend toward deeper drilling. Associated Oil Company has held chiefly to the deeper levels, but the average initial production of completions during the past year has been much smaller than during the earlier days of development. Bolsa Chica Oil Corporation is resuming work on Hartman 5, which came in with a flow of 1500 barrels of water and oil from the deep zone. About 2400 feet of 6⅝ inch liner will be sidetracked below 5880 feet and a new liner run.

WILDCATS FROM ALL SECTIONS

MISSISSIPPI

Completions

HINDS COUNTY (Jackson Dist.)—
Love Pet. Co., Ridgeway 1, 2-5-1e.. * 2488

WARREN COUNTY (Vicksburg Dist.)—
Henderson et al, Dornbusch 1, 8-18-15 . ..... * 2475

ALCORN COUNTY — Alcorn Pet. Co.'s Matthews 1, 14-2s-7e, fsh junk, td 2735 ft.

CLAY COUNTY—Ohio Oil Co.'s Cantrell 1, ne ne 15-15-5e, elev 270 ft, dr 1100 ft.

CHICKASAW COUNTY — Hightower & Golson's Fleming 1, 30-13-3, driving 8¼-inch cas, td 1895 ft.

GRENADA COUNTY — Carter Oil Co.'s Dubord 1, 18-22-4e, dk pat.

HINDS COUNTY (Jackson Dist.) — Mrs. Ella Rawls Reeder's State Land 1, 25-6-1e, sd 2905 ft. Jackson O&G Co.'s Central Cotton 1, 3-5-1e, dk; Mayes 1, 2-5-1e, plug back to 2450 ft, arr dr plug, td 2585 ft. Love Pet. Co.'s Morton 1, 34-6-1e, dk; Ridgeway 1, 2-5-1e, top Midway shale 2367 ft, set 6⅝ cas top Midway chalk 2455 ft, bailed dry, show sw, shot with dynamite, fresh water, abn, td 2488 ft, elev 270.5 ft; Maley 1, se nw 15-5-1e, elev 257.5 ft, topped Midway shale 2387 ft, topped Midway chalk 2487 ft, set 6⅝ cas 2487 ft, td 2490 ft. Love Prod., Co.'s Crisler 1, nw sw 2-5-1e, topped Midway shale 2373 ft, elev 269 ft, set 6⅝ cas top chalk 2468 ft, running 1¼-inch tubing for siphon, making 4-5 mil ft gas much sw, td 2485 ft. Miss. Tex. Oil Co.'s Negro Fair Assn. 1, sd in sand and shale 1902 ft, cur titles. Tri-State O&G Co.'s Wilson 1, 36-6-1e, dk. Universal O&G Co.'s Holliday & Ross 1, 8-6-2e, ta 2653 ft; Sharbrough 1, 28-6-1e, set 10-inch cas 88 ft, wo. Miss. Pet. Co.'s Solvent Inv. 1, sw sw 14-5-1w, dr rock 2000 ft; Baptist Orphanage 1, se se 28-6-1e, dr 1900 ft. La Fleur O&G Co.'s Chadwick & Brown 1, sw nw 11-5-1e, top Midway shale 2344 ft, arr set cas, elev 261 ft. Hawkeye Gas Co.'s Webster 1, ne nw 15-5-1e, set 10-inch cas 580 ft, dr 900 ft, elev 269.6 ft.

KEMPER COUNTY (De Kalb Dist.)—W. W. Jones' Rosenbaum 1, lcn not given, dk.

LA FAYETTE COUNTY—F. E. West et al's May 1, 22-10-1w, rigged up wo.

MADISON COUNTY (Jackson Dist.)—Miss. Pet. Co.'s Raymond 1, nw sw 32-7-2e, set 12½-inch cas in blue gmbo 706 ft, wo.

MONROE COUNTY (Amory Dist.)—Amory Dev. Co.'s Bourland 1, 2-13-19, sd 2912 ft. Park Bowser's Cowart 1, 2-12-19, sd 85 ft. Associated Royalties' School Board 1, 16-15-17w, sd 60 ft. Amory Pet. Corp.'s Harris 1, nw nw 18-13s-17w, lcn; Carter 3, se se 7-13s-17w, mov in rig.

RANKIN COUNTY (Jackson Dist.)—Jackson O&G Co.'s Pate 1, 12-5-1e, lcn. Sabine O&G Co.'s Fee 1, 6-5-2e, lcn. Love Pet. Co.'s Moore 1, 28-6-2e, sd 900 ft. Southern Pet. Co.'s Investment 1, 12-5-1e, top Midway shale 2316 ft, set 6⅝ cas 2385 ft, dr in. Millstein O&G Co.'s Hartfield 1, se ne 12-5-1e, dk pulled in while running cas, td 2300 ft. Gulf Ref. Co.'s Hamilton Est. 1, sw sw 4-5-2e, rig up, elev 284 ft.

WARREN COUNTY (Vicksburg Dist.)—Henderson et al's Dornbusch 1, 8-18-15, junked abn, ds hung in hole, td 2475 ft. Vicksburg O&G Co.'s Dornbusch 1, 8-18-15, sp, sd 90 ft.

WEBSTER COUNTY — Cumberland Oil Co.'s Henley 1, 15-21-11, ta 1865 ft.

WINSTON COUNTY (Louisville Dist.)—Mississippi Drilling Co.'s Scarbrough 1, nw nw 15-13n-14e, rig up.

YALABOUSHA COUNTY (Water Valley Dist.)—J. D. Collett et al's Blackmer 1, se nw 14-11-4w, fsh junk 2260 ft, td 2434 ft.

ALABAMA

HOUSTON COUNTY—J. R. Sealey et al's Fee 1, 13-1n-27e, changing from cable tools to rotary, td 3100 ft.

LAUDERDALE COUNTY — P. J. McAlpine's O'Neal Hrs. 1, 8-2s-13w, sd in white limestone td 2525 ft.

MORGAN COUNTY—Albany-Decatur O&G Co.'s English 1, 6-6-4, fsh for cas, td 4130 ft.

ABBREVIATIONS

NOTE—The following is the explanation of abbreviations, signs, etc., used in completion and wildcat reports: *—dry hole, abandoned well; ‡—salt water; †—junked and abandoned; ¶—million feet of gas; abn—abandoned; bbls—barrels; b.s.—basic sediment; cas—casing; co—cleaning out; dk—derick; dr—drilling; fsh—fishing; ft—feet; in.—inches; lcn—location; m—milling; n, s, e, w—north, south, east, west; r—reaming; sd—shut down; sdtr—sidetracking; sp—spudding; sr — straight reaming; std—standardizing; sw—salt water; td—total depth; ur—underreaming; wo—workover; wosr—waiting on standard rig.

SUMTER COUNTY—B. W. Bates' Fee 1, 3-18-1w, ta 1200 ft; Fee 2, 3-18-1w, rig up wo.

WASHINGTON COUNTY—Hobson et al's Wilson 1, 27-7-1w, sd in limey shale, 881 ft; Hobson Bros. 1, 9-8-2w, sd 1450 ft. Oscar Brown's U. S. Land & Cotton 2, 25-3-2w, no report.

TENNESSEE

DECATUR COUNTY—Chester County O&G Co.'s Montgomery 1, topped sand 1920 ft, dr sand 1942 ft (corrected depth).

WEST TEXAS

Completions

COKE COUNTY—
Arkansas Fuel Oil Co.-Dixie Oil Co., Stepp 1 . ..... * 4670

CROCKETT COUNTY—
Magnolia Pet. Co., A. C. Hoover 2 10 2056

IRION COUNTY—
P. H. Williams et al, Ashe 1 ..... * 8900

PRESIDIO COUNTY—
Brite Prod. Co., L. C. Brite 4.... * 3139

ANDREWS COUNTY — Fuhrman Pet. Corp.'s W. T. Ford 1, elev 3186 ft, cased off 30 mil ft dry gas 4062-68 ft, flowing 20 bbls oil daily by heads and dr 4290-4403 ft. Martin-Maer & Kell's Meadors 1, elev 3288 ft, top salt 1705 ft, sd 4501 ft.

BREWSTER COUNTY—Trans-Pecos O&G Co.'s Jones 1, elev 3073 ft, sd 2510 ft.

CONCHO COUNTY—W. C. Beesley et al's Waring 1, sp and sd. A. W. Turner et al's Brosig 1, sd 1520 ft.

CRANE COUNTY—Cranfill Bros. Oil Co. & Atlantic Oil Prod. Co.'s J. T. Muir 1, elev 2499 ft, top salt 485 ft, trace oil 1800-20 ft, dr 2400 ft. Cranfill Bros. & Gulf Prod. Co.'s Tubbs 1, elev 2526 ft, top salt 505 ft, top white lime 2445 ft, dr 4255 ft. C. C. Duffey et al's Cowden 1-C, dry and abn 3907 ft.

CROCKETT COUNTY—Magnolia Pet. Co.'s A. C. Hoover 2, elev 2521 ft, top salt 865 ft, swabbing 10 bbls 31 grav oil after shot 60 qts 2038-2056 ft and comp.; Hoover 3, lcn. McMan O&G Co. & Amerada Pet. Corp.'s Powell 2, elev 2651 ft, top salt 1005 ft, testing oil 2595 ft.

CULBERSON COUNTY — Grisham-Hunter Corp.'s W. D. Garren 2, sd 1520 ft. W. L. Kornrumpf et al's Garren 1, co 1025 ft.

ECTOR COUNTY—C. P. Davis et al's T. G. Hendrick 1, (dd), dr 4070 ft. H. F. Wurtz et al's Ibbetson 1, elev 2840 ft, top salt 865 ft, sidetracking hole, td 2375 ft.

EDWARDS COUNTY—Phillips Pet. Co.'s Holman 2, dr 5875 ft.

FISHER COUNTY—Condor Pet. Co.'s Wilson 1, rig. Cranfill-Reynolds Co.'s Flannigan 2, sd 3130 ft; Willingham 3, dr 2485 ft. The Texas Co.'s D. W. Stephens 2-A, rig; M. Teagarden 1-B, rig.

GARZA COUNTY—Pandem Oil Corp. et al's K. Stoker 2, sd 1850 ft.

GLASSCOCK COUNTY — Ed. Timberlake et al's Meek 1, sd 2965 ft. World Oil Co.'s McDowell 3-C, sd 660 ft.

TOM GREEN COUNTY—Belding & Dutton's Norsworthy 1, sd 765 ft. Mintex Oil Co.'s Campbell 1, co 1710 ft. Phillips Pet. Co. et al's Jennings-Gulden 1, elev 2016 ft, ur 3634 ft.

HOWARD COUNTY—Greene Prod. Co.-Getty Pet. Corp.'s Denman 1, elev 2280 ft, top lime 1700 ft, testing with 800 ft oih at 2615-30 ft; Snyder 1, elev 2314 ft, set 6⅝-in cas 1886 ft.

HUDSPETH COUNTY—Geo. R. Theison et al's University 1, sp and sd.

IRION COUNTY—Burton et al's Nutt 1, lcn. Central Oil Co.'s H. Horney 2, sp and sd. Carl Cromwell et al's Tankersley 1, elev 2520 ft, sd 1712 ft. Straughn & Texannati Oil Co.'s Nutt 4, lcn; Tankersley 1, ur 945 ft. F. E. Webb et al's Nutt 1, lcn abn; W. H. Williams 1, sp and sd. P. H. Williams et al's Noelke 1, dr hfw 1940 ft.

JONES COUNTY—McBest et al's Roberts 1, dr 590 ft. C. R. Pope et al's Swann 1, dr 1410 ft.

LOVING COUNTY — Arkansas Fuel Oil Co.'s W. W. Dean 1, top salt 775 ft, dr 950 ft. The California Co.'s Reagan 3, elev 2687 ft, top salt 726 ft, cemt 7-in cas 4051 ft; Reagan 4, elev 2738 ft, top salt 790 ft, top black lime 4280 ft, swabbed 21 bbls oil 4307-25 ft, pb to 4323 ft; Reagan 5 and 6, rigs. A. R. Eppenauer Drlg. Co. et al's Allen 1-A, dr 680 ft. Geo. Henshaw et al's Reagan-McIlvain 1, elev 2689 ft, top salt 745 ft, top Delaware 4232 ft, flowed 132 bbls oil 14 hrs after shot 140 qts 4226-62 ft, td 4254 ft. Lewis & Slagel Drlg. Co.'s Cartwright 1, lcn. Miller-Burge & Healy's Chapman 1, top salt 750 ft, fsh 3315 ft. Phillips Pet. Co.'s Wheat 2, sp. Rush-Anderson & Moor's Jim Wheat 1, dk. L. O. White et al's Russell 1, top salt 750 ft, co 4005 ft.

MENARD COUNTY—W. C. Barnett et al's Callan 3, (dd) ur cas 1305 ft; Callan 4, machine. L. G. Priest et al's J. P. Sorrells 1, elev 2279 ft, sd to set 6⅝-in cas 2520 ft.

MIDLAND COUNTY—Kirwin et al's Mathena 1, rig.

MITCHELL COUNTY — Lewis & Slagel Drlg.. Co.'s A. M. Bell 1, rig.

PECOS COUNTY—Barnes et al's Sanford 1, elev 2518 ft, co with hfw 1350-80 ft. J. R. Bell et al's H. J. Eaton 1, lcn; Scharff-Blackman 1, lcn. Charlesworth-Messenger Oil Co.'s Byrne 2, elev 2511 ft, flowed oil by heads 1364-98 ft; Butz 1, sd 740 ft. E. L. Chapman et al's Streety 1, elev 2653 ft, dr by tools 2210 ft. Crosby Prod. & Roy. Corp.'s Cordova 1, dr 2780 ft. Curry & Eakin's Pecos Valley 1, elev 2440 ft, top salt 1200 ft, testing production 1577-1629ft. C. L. Dittman et al's H. J. Eaton 1, dr 1015 ft; Eaton 2, lcn; Eaton (Sec. 37.) 1, lcn; J. S. Jackson 1, lcn. Humble O&R Co.'s H. L. Kokernot 1, elev 3593 ft, top salt 2713 ft, top black lime 3981 ft, dr black shale 5285 ft; Mrs. C. L. Thompson 1-B, elev 3061 ft, cased off heavy flow water 1700 ft. Lockhart & Co.'s University 1, dr 850 ft. Magnolia Pet. Co.'s Byrne 1, swab 12 bbls oil after shot in pay 1349-85 ft. J. R. Miller et al's Bennett 1, sd 1700 ft. J. D. O'Mara et al's Bennett 1, sd 1230 ft. O. J. Perren et al's Eaton 2, elev 2437 ft, making gas, sd 1765 ft. Pure Oil Co.'s Harrison 1, elev 3495 ft, dr 2700 ft. Rio Grande Oil Co.'s Webb 1, dr 1155 ft. Riser & White's Riser 1, sd 405 ft. Sides & Cloyd's Blackstone-Slaughter 1, dr 2335 ft. N. E. Tanner-Cromwell-M. M. Rowan's University 1, testing production after plugging back from 2154 ft. Williams & Moran's R. G. Heiner-State 1, sd 375 ft.

REAGAN COUNTY—Big Lake Oil Co.'s University 179, fsh 4003 ft; University 4-C, flowed 2937 bbls 58 gravity oil and 55,349,000 ft gas with 225 lbs back pressure, td 8697 ft;

University 5-C, dr 5374 ft. Group One Oil Corp. (Conoco's) University 4-B, dr 4204 ft.

REEVES COUNTY — Biggs & Smith's Cherokee 1, sp and sd. California Co.'s Kloh 1, elev 2798 ft, re-drilling hole at 3190 ft, td 3616 ft. May & Milton's Ellis 1, dr 1380 ft. Lee O. White et al's Hersheusen 1, elev 3244 ft, top salt 2670 ft, sd 4415 ft.

RUNNELS COUNTY — Boyce & Lamar's Lange 1, elev 1844 ft, sd 2643 ft. Chas. Dutton et al's G. W. Dean 1, running cas, td 1330 ft.

SCHLEICHER COUNTY — Delmar Oil Co.'s O'Harrow 1, elev 2421 ft, dr 5555 ft. Eastland Oil Co. Unit Plan's Tisdale 1, lcn. Munger-Wilson Oil Co.'s Page 1, elev 2270 ft, sd 5053 ft. Paul Teas & Walter Gant's Allison 1, dr 3870 ft. J. D. Wesner et al's R. E. Ratliff 1, sd 750 ft.

SCURRY COUNTY—Camp Springs O&R Co.'s Strayhorn 1, fsh 850 ft. D. H. Byrd & H. A. Harmon's Murphy 1, elev 2298 ft, top salt 775 ft, top lime 1507 ft, co after two shots, td 3501 ft. Mid-Kansas O&G Co. & Vacuum Oil Co.'s Peckham 1, elev 2155 ft, co 4280 ft. R. B. Pender O&G Co.'s Davis 1, sd 4970 ft. Seifert & Dibble's Blackburn 1, sp and sd.

STERLING COUNTY—W. C. Beesley et al's W. L. Foster 1, dr 155 ft.

TAYLOR COUNTY — Adams-Ferguson-Hobbs' Lowe 2, dr 275 ft. Gibson-Johnson et al's Bingham 1, elev 1919 ft, sd 2501 ft. H. B. Herring-Hucony Gas Co. et al's Richie 1, dr 2310 ft. J. B. Jameson et al's Webb 1, elev 1905 ft, dr 6182 ft. Sanger et al's Abilene Fee 1, dr 550 ft. Sanger O&R Co.'s Osborn 1, rig.

TERRELL COUNTY—Big Bend Oil Corp. et al's Bassett 1, elev 2396 ft, dr 2360 ft. Mid-Kansas O&G Co.'s Good 1, elev 2405 ft, fsh 5226 ft.

VAL VERDE COUNTY—O. O. Owens et al's Mills 1, elev 2130 ft, co 6760 ft. Phantom Oil Co.'s Ingram 1, sd 3035 ft.

UPTON COUNTY—Gulf Prod. Co.'s King 1, dr 2075 ft. Penn Oil Co. & Shell Pet. Corp.'s T. M. Anderson 1, top salt 1335 ft, dr 1625 ft.

WARD COUNTY — Atlantic & California Co.'s S. R. Allen 1, lcn; E. F. Lanham 1, dk abn; E. W. Thomas 1, top salt 2244 ft, top lime 2441 ft, dr hole dry 2850 ft. Gulf Prod. Co.'s Hutchings 4, elev 2639 ft, flowing 40 bbls oil daily 2565-2880 ft; Hutchings 5, elev 2679 ft, top salt 1205 ft, top lime 2316 ft, flowing 190 bbls oil 2555-2789 ft; O'Brien 15, dr 355 ft. Magnolia Pet. Co.'s Sealy 1, dr 2505 ft. R. F. Owen et al's Johnson 1, elev 2499 ft, top anhydrite 885 ft, top rustler lime and flowing sulphur water 1026 ft, sd 1200 ft. Sid Richardson et al's O'Brien 5, sp. Shipley Oil Corp.'s Monroe 1-A, elev 2655 ft, top salt 2485 ft, sd 2520 ft. Texas Pacific Coal & Oil Co.'s M. Barker 1, top salt 1035 ft, top lime 2135 ft, top white sand 2215 ft, sd to set cas with good show oil and gas at 2255 ft.

WINKLER COUNTY — Champlin-Winkler Oil Corp. (Wilson's) Campbell 1, sd 4639 ft. Empire Gas & Fuel Co.'s Daugherty 1-C, dr 740 ft. Magnolia's Bashara 1, rig; Scarborough 3, set 10-in cas 1208 ft. Prairie O&G Co.'s L. E. Johnson 1, top salt 1565 ft, dr 2775 ft. Jeffery et al's Brown 2, sd 3120 ft. L. C. Turman et al's Daugherty 1, dr 1430 ft.

CENTRAL EAST TEXAS

Completions

HENDERSON COUNTY—
L. G. Bradstreet & Co., J. J. Schaunessy 1 . . . . . * 4585

VAN ZANDT COUNTY—
E. L. Chapman et al, Wolverton 2 * 600

BOWIE COUNTY—Joe Burham et al's G. W. Burnett 1, M. H. Janes sur, dr 1065 ft. Lee Timberlake et al's J. Tidwell 1, Jas. Eskell sur, elev 286 ft, sd 3008 ft.

CAMP COUNTY—McDonald Bros. & Atlantic Oil Prod. Co.'s B. D. Tillery 1, J. H. Murphy sur, sp and sd.

CASS COUNTY—Phillips Pet. Co.'s J. R. Olds 1, dk.

CHEROKEE COUNTY—Berry & Hale et al's Jeff Jones 1, dk. D. H. Byrd et al's W. H. Felder 1, sd 600 ft.

DELTA COUNTY—Delta County Dev. Co.'s M. E. Hays 1, J. B. Anderson sur, elev 503 ft, sd 3080 ft.

ELLIS COUNTY—C. G. Foster & S. C. Richardson's Moise-Cerf 1, LaPena sur, elev 440 ft ,sd 2187 ft. E. M. Rogers et al's J. L. Winn 1, O. Wheeler sur, sd 805 ft. The Triangle Corp.'s W. B. Hale 1, B. Smith sur, Trinity sand at 2740 to 3040 ft, dr shale 3065 ft.

FANNIN COUNTY—Ed. V. Parsons et al's Morgan 1, J. E. English sur, elev 668 ft, lowering cas 3423 ft.

FRANKLIN COUNTY—Harper-Byers et al's A. J. Laws 1, D. G. Rogers sur, sp and sd.

HENDERSON COUNTY—H. B. Ashburn et al's T. E. Terry 1, Arron York sur, elev 397 ft, top Austin chalk 2810 ft, sd 2890 ft. E. L. Chapman et al's Cade 2, rigging up for 900-ft gas test. Geo. L. Pace et al's Anthony 1, J. M. Betram sur, elev 410 ft, Pecan chalk 2252-2361 ft, sd 3060 ft. Texas-State Oil Co.-R. H. Dearing et al's T. H. Skinner (20-acre) 1, J. Hinshaw sur, spd and sd.

HOPKINS COUNTY—Okla.-Tex. Royalty Corp.'s Hamilton-Mollie Hess 1, Jas. Gahagan sur, dr 1450 ft.

HUNT COUNTY — Mrs. Mamie S. Hammonds-F. B. Branson-C. A. Kelsey's J. S. West 1, Jas. Rhodes sur, elev 505 ft, Pecan chalk 1310-65 ft, Austin chalk 1415-1815 ft, top Woodbine 3260 ft, sd 3250 ft. R. J. Worthington O. & Dev. Co.'s W. H. Adams 1, lcn.

KAUFMAN COUNTY—Otto R. Winter & Coastline Explorations, Inc.'s John Barrow 1, R. A. Terrell sur, elev 538 ft, Austin chalk 2283-2667 ft, top Woodbine 3194 ft, fsh drill stem 3300 ft.

LIMESTONE COUNTY—Haley-Heemann's Wilkes 1, J. Breeding sur, elev 421 ft, sd 1444 ft.

NAVARRO COUNTY—Young et al's J. H. Farmer 1, Robt. Finley sur, sd 960 ft. L. G. Priest et al's Henry Albritton 1, H&TC Ry. sur, sp and sd.

RAINS COUNTY—Everett & Morrison's F. Franklin 1, J. Christian sur, sp and sd.

RED RIVER COUNTY—E. L. Chapman et al's Morris-Guest 1, S. Larkin sur, sd 1505 ft.

RUSK COUNTY—Benedum-Trees Oil Co. & Clem S. Clark et al's Mrs. M. R. McCafflin 1, E. Blackburn sur, elev 406 ft, Pecan chalk 2190-2487 ft, tested salt water in sand 2686-2714 ft. Abe Goodman et al's L. M. Mays (115-ac) 1, W. Brown sur, lcn. C. M. Joiner et al's Mrs. Daisy Bradford 3, Juan Ximinez sur, elev 390 ft, Pecan chalk 2590-2744 ft, base Austin chalk 3490 ft, flowing about 250 bbls 37 gravity oil by heads from Woodbine sand 3536-92 ft. Moss et al's Mathews 1, top Pecan chalk 2296 ft, sd 2330 ft. C. Rosenfield et al's E. L. Pinkston 1, M. V. Pena sur. A-27, spd and sd.

SMITH COUNTY—Owen-Slcan Oil Co. & R. H. Davis' J. H. Starnes 1, J. W. Allen sur, elev 417 ft, top Pecan chalk 2738 ft, sd in chalk 3002 ft. T. B. Slick & Winona Oil Co.'s M. Freeman 1, A. J. Lagrone sur, elev 498 ft, top Pecan 2955 ft, sd 3538 ft. Sun Oil Co.'s Oscar McGehee 1, Thomas Quevedo sur, elev 428 ft, dr 1085 ft. Thayer & Rogers' Dr. Willingham 1, Jacob Herrin sur, dr 1500 ft.

VAN ZANDT COUNTY—Bethel Oil Co.'s P. Smith 1, M. Neal sur, elev 435 ft, Pecan chalk 2555-2790 ft, Austin chalk 3865-4009 ft, sd 4603 ft. D. H. Byrd et al's C. H. Morris 1, P. Piles sur, elev 570 ft, dr shale 3047 ft. E. L. Chapman et al's Chas. T. Wolverton 1, Wm. James sur, elev 515 ft, Pecan chalk 2810-3106 ft, base Austin chalk 3409 ft ,top Woodbine sand 3996 ft, coring 4000 ft. L. G. Priest et al's Blanche Blewett 1, E. Porter sur, elev 610 ft, Pecan chalk 2795-2957 ft, dr 3130 ft. Vanco Oil Co.'s Wages 1, dk.

VAN FIELD—Geo. Anderson & E. E. Fogelson et al's Mrs. W. A. York (strip lse.) 1, Austin chalk 2580-2550 ft, top Woodbine series 2680 ft, cem cas 2685 ft. Broderick & Calvert's M. F. Shirley (2.07-ac lse.) 2, lcn. E. L. Chapman et al's Clark 1, dk down. Cranfill & Germany, Inc.'s, L. L. Swain (4½-ac lse.) 1, sp and sd by injunction. Hartt Pet. Co.'s Swain (2.3-ac lse.) 1, rig. Helms et al's C. E. Bogue 1, Marshall University sur, elev 461 ft, sd 1670 ft. Humble O&R Co.'s R. S. Blake 4, elev 478 ft, Austin chalk 2415-2554 ft, Pecan chalk 1532-1617 ft, top Woodbine 2688 ft, cem cas 2698 ft; Mrs. E. E. Caroll 2, elev 473 ft, dr 1625 ft in shale; Dowdle 1, dry and temp. abn at 2987 ft. Imperator Oil Corp. et al's Carter (strip) 2, dk. Imperator Oil Corp. & Paul Vitek's G. J. Luther (3.01-ac) 1, elev 447 ft, top Pecan chalk 1653 ft, Austin chalk 2630-2810 ft, show oil and gas 2840-50 ft, ream hole to set 4¾-inch cas, td 2900 ft. Roy Jenkins et al's M. E. Davis 1, cem cas 2907 ft, moved off rotary, sd to pump with some oil in hole, td 3031 ft. Kraft & Kelsey's Wylie Enas (30.6-ac strip) 1, J. Prado sur, Pecan chalk 1645-1770 ft, sd in shale 2005 ft. Pure Oil Co.'s A. D. Clark (4-ac) 1, testing sand 2927 ft; W. H. Cook 1, top Austin chalk 2283 ft, cem cas 2646 ft; J. F. Crim (40-ac) 1, put on pump, td 2981 ft; Crim 2, cem cas 2738 ft; V. T. Davis 1, dk; Mertie Elliott 1, lcn; A. G. Maxfield 2, cem cas 301 ft; D. O .Mayo 1, cem cas 307 ft; P. E. Neils 1, top Austin chalk 2490 ft, cem cas 2799 ft; Shirley (38-ac) 2, dr 25 7ft; F. Smith 1, top chalk 2479 ft, dr 2540 ft; J. C. Stewart (44-ac) 1, dr 1015 ft; O. L. Swain (40-ac) 2, dr 700 ft; Swain (43-ac) 1, coring 2685 ft; J. T. Thompson 9, top Austin chalk 2303 ft, cem cas 2578 ft; A. R. Tunnell 3, top Austin chalk 2375 ft, cem cas 2682 ft; Tunnell 4, dr plug 2735 ft; R. L. Wells 5, dk; Wells 11, cem cas 2558 ft; W. A. York 2, dr 590 ft. Shell Pet. Corp.'s E. L. Fowler 7, dr plug 2441 ft; J. T. Taylor 2, dr 300 ft; Taylor 3, dr 690 ft. Sun Oil Co.'s I. W. Thompson 3, dk. Ventex Oil Co. (Paul Vitek's) L. A. Smith (2-ac lse.) 1, wooden dk.

WOOD COUNTY—Big Indian Oil & Dev. Co. & Tidal Oil Co.'s R. J. King 1, Wm. Barnhill sur, elev 525 ft, Pecan chalk 2636-2875 ft, dr 4867 ft. oWod County Dev. Co.'s Ricks 1, Daniel Fuller sur, sd 1000 ft.

Yolo County Test Promising

Los Angeles.—Coring of a sand which showed a heavy gas content in George F. Getty's Guinda 1, a strictly wildcat test on Section 23-12-3, in Yolo County, resulted in precautionary measures to prevent a blowout from around 1900 feet. The gas pressure was sufficient to cut the rotary mud but the significance of the discovery has not been determined. The test is located on the Nigger Heaven Dome, near Guinda, and a commercial flow of gas would be valuable, although the well was ostensibly started for oil.

TEXAS GULF COAST

AUSTIN COUNTY—O'Hara et al's Schrader 1, sd 1790 ft. Empire's Kunze 1, San Felipe, sp. Humble's Duncan State Land 2, e edge Raccoon Bend, dr 1690 ft sticky shale; Hugo Hagen 1, 2 mi s Raccoon Bend, dr sand rock; R. Hardy B-3, e edge Raccoon Bend, dk; Fritz Lamp 1, 1½ mi sw Raccoon Bend, abn at 5411 ft in hard sand.

BRAZORIA COUNTY—Thos. Faust et al's Fee 6, 2 mi s Nash dome, dr 5302 ft gbo. Steel & Strickland's Lochridge 1, near Lochridge, sd 50 ft. Rycade's Wisdom 27, Nash dome, dr 5365 ft sandy lime. Rycade & Amerada's Seaburn 2, Stratton Ridge, ru. Freeport Sulphur Co.'s Fee 2001, Bryan Mound, cored sand 4240 ft; Seaburn 1, Stratton Ridge, dr cap rock 1465 ft; Stratton 1, Stratton Ridge, dr 125 ft sand. The Texas Co.'s Ewing 1, Manvel, set 6⅝-in cas at 7145 ft. The Texas Co.'s J. H. Murdock 1, Fresno, dr 2776 ft gbo. Mills Bennett's Poole 1, Allen dome, completed for 1550 bbls at 4378 ft; Allen 2, Allen dome, dr 4036 ft sandy lime; Randon 1, Allen dome, stuck dr stem at 5320 ft in shale. United Oil Synd.'s Mores 1, 3 mi n Danbury, sd 1450 ft.

CALHOUN COUNTY — The Texas Co.'s Thomas 1, Chocolate Creek, J. P. Tillery sur, dr 5505 ft sandy shale.

CHAMBERS COUNTY—Pure's Lost Lake 5, fsh at 5155 ft for stuck dr stem. Pure-Rycade's Jackson 1, Oyster Bayou, dr 6135 ft shale. Shell's Herff 2, Moss Bluff, dr 2325 ft gbo and lime. Chicago Oil Corp.'s Lawrence 1, 10 mi s Barbers Hill, sd 3950 ft.

FORT BEND COUNTY—Gulf's Moore 25, Moores Field, dr 3675 ft rock; Moore 26, dr 2990 ft shale.

GALVESTON COUNTY—Gulf's Smith 10, High Island, pulling dr stem, stuck in sticky shale at 5025 ft.

GRIMES COUNTY—Wainwright-West Oils, Ltd.'s Templeman 1, 6 mi s Navasota, dr 3135 ft sandy shale. R. H. Byrd-Dearing et al's Muenger 1, ½ mi n Anderson, cored sand and lignite from 2515 to 2519 ft.

HARDIN COUNTY—D. O. Speight's Gidriy 1, 4 mi s Batson, sd 2850 ft.

HARRIS COUNTY — Humble's Simms-Smith 78, Goose Creek, set 13⅜-in cas at 4875 ft; Warren 8, Hockley, dr 4500 ft sand and shale; Minnetex 3, Mykawa, completed Sept. 27 for 500 bbls at 4873 ft. W. C. Turnbow et al's Miller 1, 3 mi e Deer Park, ru. Mrs. J. C. Baldwin's Kitzman 1, 2 mi n Cypress, sd 4250 ft. Gulf States Oil Co.'s Augspurger 1, 8 mi n Houston court house, dr 1975 ft shale. Golden Star Pet. Co.'s McDade 1, 1 mi n Dyersdale, dr 1560 ft.

JACKSON COUNTY — Jackson Co. Oil Synd.'s Drushell 8, Edna, sd 3870 ft, waiting on casing. Warner-Quinlan's Hungerford 1, Henry Smith sur, lcn.

JEFFERSON COUNTY—Westbury Oil Co.'s West 1, S. Choate sur, sd 4100 ft. The Texas Co.'s Pipkin 4, Big Hill, dr 1765 ft sand rock.

LIBERTY COUNTY—Saxet Oil Co.'s Davis 2, N. Dayton, dr 700 ft gbo; Wilhite 3, N. Dayton, td 5575 ft, heaving shale, pulled dk in. Harison Oil Co.'s Quintette 4, ru to wo; Gulf Fee 1, dr 3300 ft. Houtex Prod. Co.'s Kynerd et all, N. Dayton, waiting on rig. Gulf's Ezell 1, Hankamer, dr 2585 ft gbo and lime; Boyt 9, Hankamer, dr 1479 ft gbo. Yount-Lee's Moores Bluff 3, Esperson, dr 7230 ft shale. Gulf's McFadden 2, Moss Bluff, dr 5585 ft sticky shale. Humble's Breeden 1, Moss Bluff, nw flank, dr 2581 ft; Hylton 1, Moss Bluff, ne flank of dome, dr 5405 ft sand and shale; Sergent 1, 3000 ft n Gulf's McFadden 1, Moss Bluff, dr 2065 ft shale and lime. Rycade's Heiskell 1, Jos. Dugat sur, dr 3750 ft gbo.

MATAGORDA COUNTY—Empire's Boker 1, Citrus Grove, dr 5245 ft sandy lime. Cockburn Oil Corp.'s Hawkins 2, Shepherds Mott, north dome, dr 1625 ft gbo.

MONTGOMERY COUNTY—Price & Wilhite's Juergus 2, 3 mi Conroe, sd 2950 ft. Lake Creek Oil Co.'s J. S. Hunt 1, s Conroe, dr 150 ft clay.

ORANGE COUNTY—The Texas Co.'s Stark 2, Port Neches, dr 5380 ft rock. Gulf's W. H. Stark 1, Port Neches, dr 6100 ft sticky shale.

WALKER COUNTY—Joyce Richardson et al's Smither 1, 12 mi n Huntsville, sd 3450 ft.

WASHINGTON COUNTY—Clifton et al's Pruiss 1, 3 mi sw Brenham, sd 1625 ft.

WHARTON COUNTY—C. S. Thomas' Taylor 1, Boling, sd 1585 ft; Volney 1, Boling, sd 250 ft. Givan et al's Hudgins 1, dr 100 ft clay.

SOUTH LOUISIANA

ACADIA PARISH—Yount-Lee's Crowley 7, Evangeline, dr 4985 ft hard sand; Houssiere-Latrielle 9, Evangeline, dr 7550 ft shale.

ASSUMPTION PARISH—Poor Boys Drilling Co.'s LaBarre 1, Napoleonville, stdg at 2425 ft.

AVOYELLES PARISH — R. A. Tippett's Chatalin 1, 5-1n-3e, sd 3400 ft. M. L. Vincent's Morrow 1, 14-2s-4e, dr 2530 ft gbo.

CALCASIEU PARISH—J. O. Davis' Ind. Lbr. Co. 1, Starks, dr 5925 ft gbo. Yount-Lee's Miller 1, w edge Lockport, dr 7075 ft shale. Union Sulphur Co.'s Martha Moss 1, Lockport, dr 6401 ft shale; Moss 2, Lockport, sd 5065 ft. J. G. Sutton's Ind. Lbr. Co. 2, Starks, dr 1250 ft. Dr. Thomas et al's Jno. Hewitt 1, 11-9s-11w, lcn. Crawford Doyle, Tr.'s, Johnson 1, 23-9s-13w, set surface cas.

CAMERON PARISH—Shell's Watkins 15, Black Bayou, dr 4075 ft shale; Black Bayou State 1, set cas at 5120 ft over sand showing oil. Freeport Sulphur Co.'s Yount-Lee 4, Black Bayou, dr 1200 ft cap rock. Magnolia's Sweet Lake Ld. Co. 1, abn at 7505 ft in sandy shale. Vacuum's Cameron Meadows Ld. Co. 1, 21-14s-13w, set screen at 5248 ft in broken sand with oil show. The Texas Co.'s Calcasieu Lake State A-6, dr 1750 ft sandy shale; State-E. Hackberry 7, dr 4679 ft shale and lime. Yount-Lee Oil Co.'s Portier 2, e of Old Hackberry, Sec. 22, abn at 5205 ft in heaving shale.

IBERIA PARISH—Jefferson Lake Oil Co.'s Lake Peigneur 9, Jefferson Island, abn in cap rock at 820 ft.

IBERVILLE PARISH—Standard's Wilbert 8, Bayou de Glaisse, dr 3600 ft lime rock; Wilbert 5, Bayou Blue, swabbing at 3225 ft, showing some oil and gas; Wilbert 7, Bayou Blue, dk; L. Baist Cooperage Co. 1, Bayou Blue, capped piling; E. B. & S. P. Schwing 1, Bayou Blue, dr 2865 ft gbo. Shell's Wilbert 5, White Castle, dr 4975 ft hard lime. Texas Gulf Sulphur Co.'s Wilbert 2, Bayou Choctau, abn at 1800 ft; Wilbert 4, ru; Nos. 5 and 6, lcns.

JEFFERSON PARISH—Humble's Delaware Fur Co. 1, Barataria dome, Sec. 2-16s-23e, will set cas around 5000 ft.

JEFFERSON DAVIS PARISH—Vacuum's DeVilbiss 1-A, Roanoke, abn at 5125 ft in water sand.

PLAQUEMINES PARISH—Humble's Cockrell-Moran 2, Lake Grande Ecaille, moving in rig; Cockrell-Moran 3, 1-21s-26e, abn at 1560 ft. Garden Island Bay State 4, 39-23s-33e, dr 4310 ft sandy shale. Gulf's Buras Levee Board 1, Rose dome, 27-21s-30e, moving in material.

ST. JAMES PARISH — Convent Oil Co.'s Jacobs 1, 28-11s-4e, sd 1895 ft.

ST. MARTIN PARISH — The Texas Co.'s Iberville Ind. Co. 2, Hager dome, dr 4135 ft gbo; Iberville Ind. Co. 3, lcn. Rycade's Woodyard Lake 1, Bayou Bouillon, dr 5960 ft sticky shale; State 4, Bayou Bouillon, dr 1165 ft gbo.

ST. MARY PARISH — The Texas Co.'s South Coast Co. 1, Charenton, Sec. 41-14s-10e, dr 7736 ft sand.

ST. TAMMANY PARISH—Washington & St. Tammany Drlg. Co.'s Coussack 2, Sec. 5-6s-10e, dr 300 ft.

TERREBONNE PARISH — Chas. Paggi's Evergreen 2, Houma, sd 1800 ft. The Texas Co.'s Bay Junop 2, 21-21s-14e, dr 4139 ft sandy shale; Dog Lake A-3, 5-22s-16e, dr 2550 ft gbo; State Caillou Island 4, 19-23s-20e, lcn; No. 5, dr 1025 ft lime rock; Lake Pelto State 4, 8-23s-18e, lcn; No. 5, lcn; No. 6, driving piling; Bay St. Elaine 5, dk; State-Lake Barre 5, 30-21s-20e, dr 2990 ft hard sand; Four Isle 4, dr 3655 ft shale.

WEST FELICIANA PARISH — Putnam Synd.'s Como Plantation 1, 54-1s-4w, prep to make dr stem test at 3340 ft.

EAST TEXAS

Completion

PANOLA COUNTY—
Natural Gas Prod. Co., Tom Moore 3, B. C. Jordan sur. ..... ¶24 4720

CASS COUNTY—John C. Rodgers' Lanier 1, K. A. Welborne sur, tested fresh water thru ds 1110 ft, dr gumbo 1310 ft.

HARRISON COUNTY — Shell Rock Pet. Co.'s Daugherty 1, Burris sur, sd 3520 ft.

MARION COUNTY—W. D. Chew's Fee 1, Wm. Hamilton sur, set 6-inch cas 2270 ft, dr 2610 ft. Trammell et al's Hussey 1, Chas. Lockhart sur, sd 1334 ft.

PANOLA COUNTY—Texas La. Prod. Co.'s Lawrence 1, Harrison Davis sur, dr 2538 ft. Knott et al's Marion Durham 1, Chas. Haley sur, arr resume dr, td 2400 ft. Smith et al's Hunt 1, Albert Johnson sur, dk. Bell et al's Burnett Lbr. Co. 1, S. B. Hendricks sur, cored sandy shale showing oil, set 8⅝ cas 2047 ft, dr plug, td 2075 ft. Ark. La. P. L. Co.'s Brumble A-2, B. C. Jordan sur, set 9-inch cas 2592 ft. Creighton & Hart's Kyle 1, J. Tippett sur, sp set 12½-inch cas 167 ft, dr 800 ft. Warren & Dawes' McNeese 1, A. Booker sur, dk. Natural Gas Prod. Co.'s Tom Moore 3, B. C. Jordan sur, set 6⅝ cas 4360 ft, making 24 mil ft gas spray sw, rock pressure 2215 lbs., td 4720 ft.

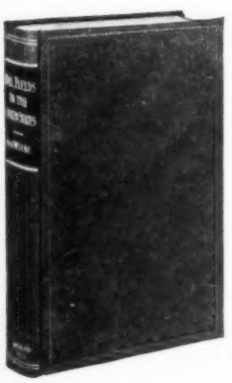
SABINE COUNTY—Loring Oil Co.'s Nona Mills Lbr. Co. 1, Jas. Mason sur, dr 3450 ft.

SHELBY COUNTY—C. R. Ridgeway's Parker 1, Jesse McElvey sur, rig up. Chapparral Oil Co.'s Holt 2, Matthew Moore sur, sd 3300 ft.

SOUTH TEXAS

ATASCOSA COUNTY — Frontier Oil Co.'s Boynton 2, John Sharp sur, td 2448 ft, coring in Eagle Ford shale.

BASTROP COUNTY—Champion Bros.' H. B. Smith 1, 1 mi w of Elgin, td 1941 ft, set casing 1900 ft in chalk over cavity which



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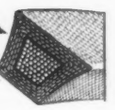

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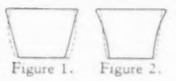


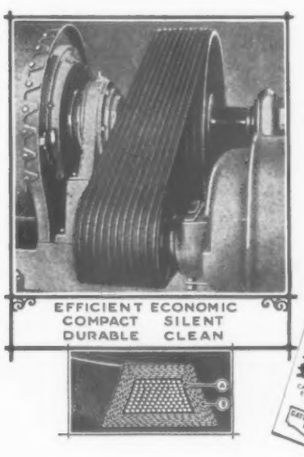
Figure 1. Figure 2.

Have you ever noticed what happens when a V-belt bends around a pulley?

The top of the belt *narrows*, the bottom *widens* and the sides of the belt *bulge out*.

This means that a V-belt constructed with the ordinary straight side is forced to assume, in the sheave groove, the shape indicated by the dotted lines in figure 1. Result—(a) the bulging produces uneven wear along the side of the belt and (b) the full side of the belt does not uniformly grip the pulley—a definite loss in transmission efficiency.

Contrast with this the precision-designed *concave* side (patent pending) of the Gates Vulco Rope. As this belt bends around the pulley it assumes the shape shown by dotted lines in figure 2. It exactly fits the sheave groove. Wear is evenly distributed across the entire side—resulting in longer life. The full side of the belt firmly grips the pulley—and this means full delivery of power.



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caused oil to gush over pits, sd, bailed considerable oil. Pacific O&G Co.'s Lytton 1, 150 ft from n and e lines of tract, no report. Charles Long's McWilliams 1, offsets L. I. Dodwell No. 1, Brundige well, waiting on machinery. Sarsfield and Wilson's J. A. Walker 1, 8½ mi ne of Elgin, td 700 ft, sd for water at last report.

BEE COUNTY—Al Buchanan's Pettus town 1, center block 20, td 3875 ft, top of pay 3870 ft, set 6⅝-inch casing 3868 ft, waiting on cement. Batex Prod. Co.'s Barnett Heirs 2, John Pace sur, td 3934 ft, plugged back to 3896 ft, salt water sand at 3894-3934 ft, waiting on liner, top of new sand 3805 ft, drilled deeper from 3649-3660 ft, which showed only small oil product, 6⅝-inch casing set at 3645 ft. Cosden Oil Co.'s Stoltfus 1, two miles east of Tuleta, td 3415 ft, dr in shale, top of Jackson 2818 ft. Hulburt et al's Chestnut 1, 12 miles from Skidmore, td 1500 ft, dr. Humble & Hurlburt et al's Wood 1, 5 miles se Beeville, td 5054 ft, bracing dk, prep to run casing, attempted drill stem test 5004-41 ft, seat broke, heavy gas show on pit. Humble's McKinney 7, td 3886 ft, top of pay 3858 ft prod 500 bbls on ⅜-inch choke. Houston Oil Co.'s Newman 3, td 3650 ft, dr; Pettus town 2, blk 21, digging cellar; Pettus town 6, center block 32, td 3913 ft, top of pay 3864 ft, prod 20,000,000 cu ft wet gas; Pettus Town 7, center of block 39, td 3927 ft, top of pay 3900 ft, woc. R. Hawn et al's Copeland 1, 150 ft from e line and 450 ft from s line in 20-acre tract out of sw corner of 90-acre Copeland tract in B. Q. Hadley sur No. 196, Grayburg Kimball area, spudded. Independent O&G Co. & Moody-Seagraves Producing Co.'s Quincy 1, Moyah sur, td 4970 ft, dr tested salt water and gas at total depth of 4949 ft, pulled liner and screen and drilling deeper. Eddie M. Jones' Rapp 3, Jose Maria Uranga sur, td 1600 ft, dr. J. S. Mauldin et al's Mauldin 1, G. A. Kerr sur, td 1200 ft, dr. Ed Price's Weiss 2, 8½ miles se Pettus pool, 2554 ft, sd to repair boiler; Weiss 3, 800 ft ne of No. 1, lcn. Rawling et al's Campbell 1, sur B&B No. 129, four miles e of Minreal, dk, dr water well. Rowan and Hook's Goree 1, 600 ft from s and 300 ft from e line of blk 4 of Thomas Barton sur, 2 miles w of Mineral, dk, waiting on rig. T. B. Slick Estate's (SRC Corp.) Alfred Theis 1, 1 mile ne of Cadiz, 5260 ft, sd; Pettus Town 3, center of blk 22, td 3904 ft, top of pay 3874 ft, producing about 800 bbls on ¾-inch choke. Union Producing Co.'s Ray 17, td 4568 ft, sd; Ray 18, offset to blk 38, td 3927 ft, top of pay 3868 ft, 6⅝-inch casing set same depth, dry gasser; Ray 22, 300 ft from w line of lease and 150 ft from extension of n line of block 42, Pettus townsite, lcn; Ray 23, offset to blk 39, td 500 ft, dr; Ray 25, 1700 ft from s and 1400 ft from e line of Pierce Miller sur in vicinity of No. 24, lcn; Ray 26, 2500 ft from s and 2000 ft from w line of Pierce Miller sur in old gas area, lcn; Ray 30, two miles ne of Pettus, td 3870 ft, dr. Wilson and Hill's Townsite 1, blk 14, lcn; Townsite 2, center of blk 16, dk.

BEXAR COUNTY—Eckert and Son's John Brehm 1, 400 ft s of No. 1 Brehm in Dobrowolski pool, td abt 600 ft, dr. Magel, August et al's Beck 1, no report. Morrosos and Collins' Hamberdale 4, Dobrowolski pool, to spud in. Penn Oil Co.'s Cooksey 1, J. W. Bell sur, No. 1, td 1460 ft, set csg on top of oil show in Taylor marl, scheduled to test Oct. 9, '30. Penn-Tex Oil Co.'s Sandemer 5, Dobrowolski pool, 300 ft s of No. 4 well, 104 acre tract in Menchaca survey. No. 52, lcn, to move on; Sandemer 6, 300 ft s of No. 5, lcn; Sandemer 7, 300 ft s of No. 6, lcn; Dobrowolski 3, 620 ft w of No. 1, and 150 ft from s line of lease, lcn, to move on. Russell and Moore's Mills 2, td abt 710 ft, dr. Swearingen Oil Co.'s Fee 7, 300 ft w of No. 6, td abt 700 ft, being completed. Watson et al's Gembler 1, td 1550 ft, sd. Weilbacher and associates' Ernest 1, td 400 ft, dr at last report. Wm. M. Morgan's Brehm 1, Dobrowolski pool, td 600 ft, set csg.

BLANCO COUNTY — Anderson and Manning's Speer 1, John W. Speer sur No. 2, spud in. Adams & Lysle's Leeders 1, 5 miles nw of Blanco City, td 540 ft, reset casing at 530 ft, re-dr. Meeks et al's E. W. Walker 1, ne corner of Noel Dixon sur No. 23, td 900 ft, dr oil show reported at 700 ft. C. L. McCreary's Kiers 1, Scherling sub, td 670 ft, sd, to re-dr. Forest Oil Co.'s (Rosenfield et al) Hohenberger 1, Sur. 94, td 395 ft, moving on heavier rig. Hardy Sitton's McMillen 1, 2 miles w of Blanco City, td 260 ft, sd.

BROOKS COUNTY—Ed East (Miller and Albricht)) Braulia C De Garcia, in the Mastina y Gonzalena tract, share A-1, about 45 mi n and e of Edinburg, td 400 ft, set 5⅝-inch csg, now standing. Houston Oil Co.'s Wormser-Holbein 2, td 3890 ft, tested oil and water at 3744 ft, set csg at 3607 ft, dr at last report. Humble's Singer 2, Sec. 312, 1 mi s of Lasater field, td 4114 ft, dr. Southern Crude Oil Purchasing Co.'s Holbein-Wormser 1, 4 mi s of production in Lasater field in nw part of Brooks County, td 3725 ft, dr.

CALDWELL COUNTY—Batts et al's Roebuck 1, td abt 2465 ft, dr. J. E. Mills et al's McMahon 1, Pinchback sur, ru. Gulf Prod. Co.'s Kelly 1, 1961 ft from ne line and 150 ft from nw line of tract J. A. Neil sur, td 2510 ft, dr. Cargill et al's Thomas 1, 1505 ft from e line and 150 ft from ne corner of A. J. Jordan tract in J. Roberts survey, prep to spud in.

COMAL COUNTY—Caldwell and Lanier's J. T. Byler 1, 175 varas from w line, 370 varas from n line of 320 acre tract in the HE&WT No. 5894 sur, td 380 ft, dr.

DE WITT COUNTY—Penn Oil Co.'s Junkers 1, 1300 ft from sw and 500 ft from nw line of 201-acre tract in John F. Pettus sur, 2 miles ne of Meyersville, prep to spud. Gibson et al's Wm. Van Roeder 1, 6 miles w of Yorktown, td 1435 ft, moving in to re-dr, well was temp abn in September, 1929.

DUVAL COUNTY—Mag. Pet. Co.'s Edge 1, Hahl sur 63, td 2515 ft, dr. SRC Company and Vacuum Oil Co.'s Duval Ranch 2, 1 mi from No. 1, lcn.

EDWARDS COUNTY — James Dalgish et al's Sid Peterson 3, Warner Ranch, td 4140 ft, sd. Phillips ePt. Co.'s Holman 2, 320 ft from n and e lines of se tract, survey No. 25, td 5590 ft, dr, no new report.

FRIO COUNTY—Wray & Dunbar's Barnes 1, td 2368 ft, report gas blow out, bridged, over, drill out bridge. United North & South Dev. Co.'s 1, td about 3074 ft, dr.

GOLIAD COUNTY—A. G. Rhemenscheider Tr.'s, A. T. Fromme 1, Simpson blk, td 2260 ft, sd to rep rig. Tipson Oil Co.'s B. Parker 1-C, 5 mi ne Goliad td 1600 ft, coring. Union Prod.'s Ray 27, 1500 ft from se line and 4550 ft from sw line of Jabian Gomez sur, 2 mi ne of Union Prod. Co. No. 3 Ray, loc; Ray 28, 150 ft from s line and 800 ft from w line of 416.5 acre e Ray tract, 2 mi due e of line of Union No. 3 Ray, lcn; Ray 29, 450 ft from n line and 215 ft from w line of AB & M 621 acre sur, 2 mi due e of No. 3 Ray Union, ru new rig.

GUADALUPE COUNTY—Emerson et al's Phillips 1, center of 80-acre tract in Media sur, lcn. Cranfill and Reynolds' Meyers 1, J. Cantu sur, td 2215 ft, dr. Grayburg Oil Co.'s Wells 2, 6 miles sw of Darst Creek, td 3864 ft, dr. Gulf Prod. Co.'s Posey-Baker 9, 450 ft from ne line and 300 ft from sw line of lease, lcn; Cercy Anderson 3, td 2585 ft, prod 1600 bbls. fluid; Knoblock td 2500 ft, prod 2180 bbls. oil; Posey-Baker 8, td 2658 ft, pump 1190 bbls; Thomas Dix 6, td 2435 ft, dr; Dix McKean td, 2590 ft. dr; Tadlock 3, td 2580, dr; Tadlock 4, td 2585 ft, dr; Dix McKean 11, td 2590 ft, set cas 2580 ft, woc. Calhoun & Miller's Linebarger 1, td abt 1900 ft, dr. Humble's Denman 15-A, td 2555, casing set at 2550, woc. Magnolia Pet. Co.'s Dix 9, td 2514 ft, dr; Annie Knodle 3, td 2590 ft, prod 400 bbls; Dix 12, td 825, dr; Dix 10, td 2152 ft, dr; Rand Miller 4, td 2514 ft, dr; Dix 11, td 2580 ft, swabbing. Sun Oil Co.'s Knoblock 12, 150 ft from ne and 150 from nw line, td 2496 ft, producing 2500 bbls oil. The Texas Co.'s Dallas Wilson 9, 150 ft from s and e lines, td 2628 ft, prep to set casing; Parrish 2, td 2625 ft, cas set at 2620 ft, drilling in; Knoblock 5-A, td 2490 ft, prod 400 bbls; Knoblock 10-B, 150 ft from nw and 150 ft from sw line of B lease, td 2495 ft, prod 1350 bbls; Knoblock 11-B, 450 ft from ne and 150 ft from se lines of B lease, td 2582 ft, cas set 2565 ft, prod 500 bbls. Weinert et al's Malone 1, ½ mile ne of Tidal-Seligman well, td 1900 ft, dr.

JIM HOGG COUNTY—Cole Pet. Co.'s Cole 1, blk 7, sur 23, W. P. Allen ranch, dk; blk 16, sur 82, td 1620 ft, dr. North & Walton's Allen 1, blk 13, subdivision No. 1, W. P. Allen ranch, lcn. Wm. H. Barnhart's McCampbell 1, ranch, 9 mi s of Hebbronville, td below 2000 ft, dr. E. E. Watts Agt's Gomez 1, sur 125, td 500 ft, standing for water. South Texas Prod. Co.'s Hinnant 1, share 5 Las Animas Grant, td 2071 ft, csg set at 2058 ft, prod 5,500,000 cu ft gas. J. W. Pippin's N. Hinnant 1, sur 147, dk. J. D. Pulliam Jr's Jones 1, blk 5-A, Holden subdivision, Diego Hinojosa grant, spd in;. R. H. Wilson's Edds 1, sur 210, lcn.

KARNES COUNTY—Fort Bend Oil Co.'s Newberry 1, 3 mi south of Green, td 1500 ft, dr.

KENDALL COUNTY—Borget et al's Willie Haag 1, td 1340 ft, dr; R. M. Perkins' J. Lawhon 1, 2475 ft from e line and 1490 ft from s line of 696, J. Lawhon sec 10, td 710 ft, fishing; Dixon et al's Behr 1, 3 mi se Sisterdale, td below 2290 ft, dr; Molwinkle et al's Karston 1, 1 mi w of Kendalia, td abt 1520 ft, dr; Permian Oil Co.'s Boles 1, sur 542 ft from SA&M Railroad, 5 mi ne Boerne, sp in. Hardy Sitton's W. B. Garvin 1, td 760 ft, sd. P. B. Sterling's McCrocklin 1, 1800 ft n line, 150 ft e line of 40-acre tract in C. B. Owen sur, 4 mi w of Kendalia, td 980 ft, dr.

KERR COUNTY—Mashe & Trunstill's Jeff Love 1, 45 mi w of Kerrville, td 1860 ft, 10 in csg set in Penn, lime.

KINNEY COUNTY—Mag Pet Co.'s Wardlow 1, Blaez sur, td 3215 ft, fshg.

LA SALLE COUNTY—Fred W. Naly et al's Coleman 1, sur 514 of Coleman ranch, ru-to spud shortly.

LEE COUNTY—Burt et al's M. D. Rickett, R. C. Saunders 1, td 3004 ft, dr. A. H. Wheeler et al's McDay 1, 14 mi ne of McDade, blk 47, Donohoe sur, td 1650 ft, sd to re dr.

LIVE OAK COUNTY—Houston Oil Co.'s Snyder 1, E. Garner sur 253, td 375 dr; Cartwright 22, td 5424 ft, showing gas, csg set, waiting on material; Booth 1-A, td 2030 ft, dr; Markley et al's Reeves-Brown 1, 1300 ft s of F. S. Sellers tract and 1800 ft e of railroad in J. E. King sur 1007-acre tract Illinois Development Co., dk. Penn Oil Co.'s Lyne 1, 10 mi sw of Geo. West, td about 2866 ft, dr, top of Jackson 2200 ft. Jacob, Buzzini, Pickett's Key 1, 5 mi e of Geo. West, td 126 ft, sd for water. Siv Keoughan's C. E. Terrell 1, 7 mi s of Fant City, td 447 ft, set 12½ csg, woc.

MAVERICK COUNTY — Rycade Oil Co.'s Chittim 5, sec 129, td 4766 ft, sd for water; Sullivan 5, sec 82, td 7092 ft, fsh.

MEDINA COUNTY — Calco Pet. Co.'s Crawford 1, 1369 ft from n and 2500 ft from e line of sur 478 in 80-acre tract, td 2465 ft. Nat'l Oil Co.'s Howard 1, 6 mi nw Devine, td 1645 ft, set 6⅝-in csg at 1610 ft on top of sand, cored saturated sand, 35 ft fish at last report.

McMULLEN COUNTY—Mogul Pet. Co.'s Martin 1, 150 ft from nw line and sw line of e Meloy sur, 15 mi sw of Tilden, td 28 ft, set 10 in csg, sd. Brodie, Sheaver & Emerich's Skiner 1, 8375 ft from n line and 380 ft from e line of H. Brewer sur No. 1, 12 mi se of Tilden, spudded in sd.

NUECES COUNTY — Houston Oil Co.'s Comstock 1, center of se ¼ of sw ¼ of sec 86, Benton Pasture sub, just sw of Banquette, to spud. Independent O & G Co.'s C. Baldwin 1, 2½ mi w of Corpus Christi, td 5226 ft cored 10 ft sand topped at 5216 ft, seat failed on D. S. T. new test being attempted. Saxet O & G Co.'s Pearson et al Donigan 2, 6 mi w of Corpus Christi, td 2800 ft, dr; Racheal 17, 150 ft from n line and 1000 ft from e line on common line between F. S. & D. C. Racheal tract, 10 ft w of e line, to spud. South Texas Prod. Co.'s Walters 3, 800 ft from s line and 460 ft from e line of Otto Walters land, sec 34, Agua Dulce gas field, dk. H. H. Weinert's Mohle 1, 450 ft from s line and 450 ft from w line of sec 94, lcn.

REAL COUNTY—McGinley & Gigler's L. A. Habley 1, center of sw quarter sur 175, td 300 ft, dr.

SAN PATRICO COUNTY—Cosden Oil Co.'s Powell 1, southwest of Odem, td 1600 ft, set surface csg, woc. Jacob, Buzzini & Pickett's J. C. & Bobby Baldwin 1, td 4020 ft, sd to move on heavier rig. J. L. Kenedy's Lollie McRae 1, to spud Peterman Oil Co.'s O. K. Crow 1, 2 mi s of Sinton, td 4100 ft, dr; Foster 1, 150 ft from e line, 1420 ft from n line, blk 5, of Welder-Coleman-Fuller subdivision, 3½ mi w of Sinton, lcn. Saxet Oil Co.'s Carroll 1, 800 ft from n line and 130 ft from w line of blk A, sec 32, abstract 108, Taft subdivision, 8 mi n Gregory, to spud. Union Prod. Co.'s Welder 4, td 4750 ft, dr.

STARR COUNTY—Kush & Duerkson's Kesley-Boss 1, blk 9, subdivision, porciones 75, 76, 77, td 680 ft, dr. Los Olmos Oil Co.'s Kesley-Boss 1, blk 6, td about 200 ft, showed 15,000,000 cu ft of gas. Moon & Moore's Flores 1, Charco Redardo grant, ru rotary to dr deeper. Texas Co.'s Guerra "A" 5, 675 ft from n and e

lines, share 305, "C" porcion 67 ,td 2000 ft, dr.

UVALDE COUNTY — Phantom Oil Co.'s Claudt 1, sur 611, td about 2550 ft, sd last report.

VAL VERDE COUNTY—Independent Operator's Whitehead 1, se sec 30, blk 4, I&GN sur, td 5430 ft, sd for csg. Phantom Oil Co.'s Ingram 1, sec 33, blk D-8, td 3035 ft, fsh for tolls.

VICTORIA COUNTY — Houston Oil Co.'s McFadden 1, 1½ mi of Lion McFadden well, td 5590 ft, dr. Lion O & R Co.'s McFadden 2, td 5750 ft, dr. The Texas Co.'s McFadden 1, td 4480 ft, dr.

WEBB COUNTY—J. L. Elliott's Esperanza Land & Livestock Co. 2, 12 mi w of Encinal, td 1980 ft, standing. O. W. Killam's Bruni 5, td 2600 ft, plug back to 2400 ft to make gasser, now dr; Villegas 1, sur 1268, td 1840 ft dr; Bruni 3, sur 825, spud in; Mag. Pet. Co.'s Wright 1, sur 674, dk; Jones 1, sur 674, td 4615 ft, dr; Benavides 1, blk 389 of Hale subdivision, Arispe grant, td 300 ft, dr; Geo. S. Marshall's Garcia 2, td 2590 ft, standing; J. J. O'Hern's S. Benavides 1, spud in.

WILLIAMSON COUNTY — W. D. Anderson's M. V. Lawrence 7, td 2242 ft, set cas; M. V. Lawrence 8, lcn; Simmons 5-A, td 1465, casing set; T. P. Simmons 6, prep to spud; S. J. Smith 1, td 2575 ft, sd for water. Baretlett & Wilson's R. E. Stewart 1, td 900 ft dr; R. E. Stewart 2, td 840, dr. E. L. Chapman's Fuchs 6-A, td not reported, to be completed. J. L. Collins' M. V. Lawrence 5, 1462 ft, sd for water; M. V. Lawrence 7, 150 ft from e and 115 ft from s line of 27-acre tract in S. Miller sur, lcn. E. E. Ertel et al's H. Swenson 1, td 1035 ft, sd for water. Elliott & Spahman's A. J. Carlson 1, td 40 ft, sd. Haska Bros' Garzel 1, e of Chapmeu field, lcn; No. 1 Slayers, lcn. A. J. Luke's Simmons 1, H. Owen sur, td 2210 ft, sd for water. W. C. Marshall's R. A. Krueger 2, td 2950 ft, sd. Manning & Anderson's Cooper 1, td abt 1300 ft, sd for water. McNeil & Matthew's Meiske 1, 4 miles ne of Taylor, td 360 ft, excellent oil showing, casing set, testing at last report. Martin et al's S. H. Jarrall 1, td 40 ft, sd. Tom Patton's J. C. Abbott 1, 19-acre strip recently acquired from Peterman, McNeil & Mills, east of 32-acre tract, spud in. G. Stratton's J. C. Abbott 5, 450 ft from e line and 150 ft from s line of 32-acre tract in S. Miller sur, re-dr. A. H. Keisker's E. L. Chapman 1, dk. Jesse Tomberlin's Partain Bros 1, td 1410 ft, sd. Texas O & G Dev. Co.'s Garrett & Allison 1, 9 mi ne Taylor, td 40 ft, sd. Wilson et al's C. Sitman 1, T. A. Moore sur, 2850 ft, sd for water.

ZAPATA COUNTY—Alamo Drilling & Leasing Co.'s Trevino 5, blk 5, sur 66; Claggett lease, td 1285 ft, prod 15 bbls; Trevino 6, Blair lease, lcn. Allied Gas Co.'s Trevino 16-A, lcn; E. Guittierrez 10, td 200 ft, dr. Allied Gas Co. and Allen and Morris' E. Guittierrez 9, td 1235 ft, casing set. Arnold & Ahler's Wicker et al, Garza 3, dr. Blair & Son's Guitterrez 1, Share 2, Comitas grant, sw of Muckelroy field, 1392 ft, testing. H Coffield's Bustamente 1, Share 3400 Comitas grant, td abt. 1300 ft, dr. Nordan & Morris et al's E. Bustamente 1, 150 ft from s and e lines of w half of 60-acre tract in Comitas grant No. 7, lcn; S. Bustamente 1, 150 ft from nw line and 990 ft from ne line of 30-acre tract in Comitas grant No. 34, lcn. Harrison et al's de La Santos 1, Share 6, Comitas grant, td 1590 ft, testing at last report. Keene & Jackson's Garza 1, blk 59, Comitas grant, Zoro pasture, td 600 ft std; M. Trevino 1-C, spud in; M. Trevino 11, td 400 ft, dr. O. W. Killam's Cuellar 26, td 1550 ft, dr; Cuellar 27, lcn; Hinnant 1, sec 72, td 2338 ft, dr at last report; Cuellar 30-B, sec 277, lcn. Lincoln O & G Co.'s Wormset 1, td 1095 ft, cored sandy shale. National Oil Co.'s Adams 1-A td 696, sand 689-696 ft, made oil, csg set 688 ft, prep to complete; Luther et al 1, blk 97 de Pron sub, Porcion 6, lcn. Niles & Edgington's Garza 1, blk 18, sec 413, td 1465 ft, dr. Nix & Blankenship's Montemayor 5, sur 64, Muckelroy pool, td 1282 ft, casing set at 1266 ft, prod about 65 bbls. Nixon et al's Guitterrez 1, Partition No. 10, Borrego grant, td 400 ft. dr. John Pappas Inc.'s Flores 1, Porcion 350, dk. Penn-Tex. Oil Co.'s Benavides 3-F, prep to spud. Penny Prod. Co.'s Cuellar , blk 1, porcion 34, Pappas sur 2, 175 ft from s and e lines, no report. W. R. Shankle's Guittierrez 5, Share 4, Fansler Partition, td 1268 ft, cas set 1257 ft, prod about 70 bbls; Trevino 9-M, blk 15, sur 65, td 1270 ft, prod 90 bbls;

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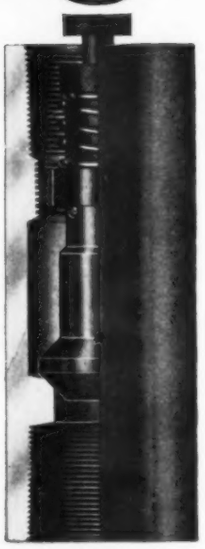


Gulfco Trip Valve
(Johnston Patents)

Makes Bailing Unnecessary

The Gulfco Trip Valve is used to run tubing against pressure by being screwed on the bottom of the tubing and set before the string is lowered in the hole. When the valve is set it makes a perfect seat. After the tubing string is set and the proper hook-up made for completion, the valve is tripped by dropping a small go-devil or bar in tubing, permitting the flow to come through the valve and tubing string. As the tubing string is dry, the use of the Trip Valve makes bailing unnecessary.

Use in Air-Gas Lift Wells

Where wells are flowed through tubing by air or gas, the Trip Valve may be used to do away with the job of building up excessive pressure for kicking the well off. If 150 pounds is the normal pressure required to flow the well, this amount of pressure is all that is required to start the flow through use of the Trip Valve. The valve is screwed on the bottom of the tubing string, which is then lowered in the hole dry. The compressor is started at 150 pounds and the valve simultaneously tripped. As the fluid level rises in the tubing the 150-pound pressure applied around the tubing keeps the fluid moving as though it had been kicked off with excessive pressure.

Use as Cement Dump Bailer

In running cement in the hole by use of a bailer, the Trip Valve is screwed on the bottom of the bailer, in an upside down position. On reaching bottom the weight of the load trips the valve and allows cement to flush out. It is also manufactured in a combination standing valve and tubing drain.

Write for complete information.

GULF COAST MACHINE & SUPPLY COMPANY

BEAUMONT, TEXAS P.O.BOX 999

HOUSTON, TEXAS P.O. BOX 1454

Trevino 10-M, spud in; No. 10 Guittierrez spud in. SRC Corp.'s Cuellar 2-B; Cuellar 5-B, 1215 ft, dr. T. D. Ward's Urbide 1, Share 7, Borrego grant, spud.

ZAVALLA COUNTY—Anglin O & G Co.'s Pryor 5, td 1040 ft, dr; Pryor 1, lcn. Gribbs & Davidson's Weatherby 1, near Loma Vista, td 1790 ft, dr.

WYOMING

BIG HORN—Westland Oil, Inc., 1, 24-54-96, gas at 510 ft. Wisconsin Holdings 5, 5-55-97, sd 665 ft. Yellowstone Pete Co.'s 1, 7-57-97, oil show 4080 ft.

CARBON—Producers O&G Co.'s Blivens 1, 35-13-92, sd 2220 ft. Midwest, U. P. 27, 11-20-81, spd.

CONVERSE—Converse O&G Co., 27-33-73, oil, gas and water show 1087 ft.

CROOK—Horth et al, se 9-56n-63w, lcn. Casper Pete Synd., ne 29-51n-63w, lcn.

FREMONT—Texas Prod. Co.'s State 1, 36-44-96, trying to circulate pipe, td 4485 ft. Producers & Refiners 1, 33-34-92, coring 4335 ft. Yellowstone Oil Co.'s 1, 15-38-94, dr 185 ft. Val B. Maghee et al, 35-33-99, dr 300 ft. Big Horn Oil Co., 15-38-94, rig.

HOT SPRINGS—Midwest Ref. Co.'s Weeks 8, 6-44-98, dr 4330 ft. Ohio Oil Co.'s Smith 1, 8-46-99, wait for rotary 4403 ft. Gebo Consolidated's 1, se 23-44-95, sd 1410 ft with 150 ft oil showing in hole.

JOHNSON — United Oil Co.'s 7-47-92, sd 1700 ft.

LINCOLN—Midwest Ref. Co.'s Grey's River 1, 25-37-117, dr 2725 ft. Mtn. Oil Corp.'s 1, 36-25-116, dr 927 ft. Wyo. Prod. Co.'s 1, 14-24-113, set cas 583 ft, td 915 ft.

NATRONA—Cuyler Oil Co., sw 24-36n-86w, set 10-inch 1250 ft. Summit Oil Co., nw 21-33n-80w, dr 650 ft. Tarrant et al., ne nw 25-31-82, dr 300 ft. Golden West Oil Co., 36-36-81, dr 750 ft.

NIOBRARA—West Virginia Synd., ne 7-35-62, undrr to 978 ft.

PARK—Resolute Oil Co.'s 1, 17-27-101, dr 7510 ft. Cody Pete Co.'s Danker 1, se 22-57-98, rigging up.

SWEETWATER—Vermillion Oil Co.'s 1, se 16-12-99, stand with 10-inch cem 2650 ft.

UINTA—Park City O&G Co., nw 6-51-113, run cas, td 1200 ft.

WESTON—Gose Synd.'s 1, 28-47-65, standing. Updike et al's Fiddler Creek 1, 11-45-64, sd 1200 ft. LeFaivre Oil Synd., se 29-45-68, spd.

MONTANA

BIG HORN—Wmbar Dr. Co., 21-6s-36e, to dd from 3056 ft.

CASCADE—Andover Oil Co.'s Floweree 1, se 20-21-2w, stand 800 ft.

CHOTEAU—Coolidge & Coolidge, se 32-26-17e, Lehnfelt 1, sd 50 ft. Williston Shelby O&G Co., Flack 1, se 12-28-11e, resum 2760 ft.

FERGUS—Melton Corp.'s 1, se 24-21s-17e, dr bel 2800 ft. Northern States Oil Co.'s Woodward 1, se 20-14n-24e, dr 150 ft.

GLACIER — Glacier Oil Co.'s Omsberg 1, nw 33-35-5w, dr 2480 ft. Texas Prod. Co.'s 1, 13-35n-6w, run 6-inch, td 2720 ft. Fulton Pete Corp.'s Blackfeet 1, ne 28-36n-12w, sd 750 ft, dr water well. O'Neil's Michaelson 1, se 28-36-5w, dr 350 ft. B. & H. Oil Co.'s Haines 1, se 2-34-6w, wait for pipe 400 ft. Jefferies-Hoerr, Dawson 1, ne 7-31-12w, dr 2000 ft.

GOLDEN VALLEY — Golden Valley Oil Co.'s 1, se 28-6-22, td 1400 ft. Texas Pacific's 1, sw 21-8s-21e, mvg in.

LIBERTY—Northland O&G Co.'s Yurman 1, 36-33n-6e, dr 2920 ft. Sunburst O&R Co.'s McLaren 1, se 9-37-6e, dr out cem 2970 ft. Utopia Oil Co.'s Eleanor Ass'n 1, sw 11-33-6e, repair engine 3190 ft. Perkins et al, Brown 1, nw 24-35-4e, spd 75 ft. West. Nat. Gas Co.'s 1, ne 23-37-4e, mvg in.

MUSSELSHELL — Minnesota - Flatwillow's Ivanhoe Dome 1, 7-11-31, dr bel 1200 ft. Laffea Oil Co., 6-10n-25e, dr 900 ft.

PETROLEUM — Minnesota-Flatwillow's 2, 5-13n-25e, rig burned, td 1840 ft. Oregon-Flatwillow's 1, 3-13n-26e, dr 300 ft.

PONDERA—Miller Bros.' Bruins 1, nw 17-28n-1w, rig up, spudded. Oil Well Dr. Co.'s Van Daele 1, ne 36-30w-38, fsh tools 4215 ft.

ROSEBUD—Prairie O&G Co.'s 1-X, 26-10-39e, 15½-inch cas cem 1320 ft.

SHERIDAN—Sheyenne O&G Co.'s 1, nw 15-36n-53e, to res 1400 ft.

TETON—Andover Oil Co.'s 1, ne 5-24n-4w, td 300 ft. Newman et al's Fitzgerald 1, 26-32n-12, rig up. Rocky Mtn. O&G Co.'s Salmond 1, 4-23n-8w, resum 1570 ft. Midwest Ref. Co.'s Scott 36, ne 2-26n-6w, shoot, show 2503 ft. Earl Oil Co., se 22-22-8w, set 10-inch 2000 ft.

TOOLE—International Royalty Holding Co.'s Henry 1, se 26-35-3e, sd 2415 ft, wait for pipe. O. I. C. Gas Co.'s Wolland 1, se 11-34-2e, dr 100 ft.

VALLEY—Texas Pacific's 1, nw 31-37-38e, test gas at 1090 ft.

ARKANSAS

CHICOT COUNTY—H. R. Smith's Lytle 1, 31-18-3, dr 2490 ft.

CLAY COUNTY—S. C. Jeffus, Tr.'s, Underwood 1, nw se 4-20-8, sd 100 ft.

CLEBURNE COUNTY—Cosden Oil Co.'s Donithan Lbr. Co. 1, 19-9-10, dr 4310 ft. Donnell et al's Fee 1, 33-11-9, dr shale 2300 ft.

COLUMBIA COUNTY—Sam Y. Dorfman's Merrick 1, 16-17-20, sd 2803 ft.

FRANKLIN COUNTY—Red Bank Oil Co.'s Hamm 1, 33-10-26, tested 3 to 4 mil ft gas top sand, fsh tools, td 3750 ft.

GARLAND COUNTY—H. H. Given's Garrett 1, 1-3n-19w, sd in lime repr rig, td 3750 ft.

HOT SPRINGS COUNTY—John Watkins, Tr.'s, Cunningham 1, 11-5-16, dk. Cleary Bros. et al's Hinson 1, 19-4s-16w, set 15½-inch cas 20 ft, 12½-inch cas 294 ft, 10-inch cas 405 ft, 8¼-inch cas 700 ft, dr 1285 ft.

JOHNSON COUNTY—Ark. La. P. L. Co.'s Kelly 1, sw sw 14-10-24, dr hd sand 1170 ft; Hudson 1, se ne 14-10-24, sp, dr 85 ft. Blackwell O&G Co.'s Wyver 1, 21-8-23, jarring out 6-inch cas 2100 ft, td 5600 ft. Conn Gables et al's Holing 1, 20-9-25, sd 2238 ft.

LA FAYETTE COUNTY — Crawford Drilling Co.'s Vaughan 1, 25-19-25, rig up.

LAWRENCE COUNTY — Marguerite Dev. Co.'s Broadway 1, 31-17-1, sd 45 ft.

LITTLE RIVER COUNTY—Buck Oil Co.'s Taffe 1, 25-12-32, sd 2505 ft.

LINCOLN COUNTY — B. F. Thompson, Tr.'s, McGehee 1, 8-8-7, sd partly rigged up.

LOGAN COUNTY—M. W. Greesom's Parks 1, 21-8-24, sd 1309 ft. J. H. Flowers' White 1, 13-5-26, ur 5 3/16-inch cas 3570 ft, td 3610 ft.

MADISON COUNTY—J. W. Baxter's Hallem 1, 17-16-26, sd 540 ft.

MILLER COUNTY—E. & F. Oil Co.'s E. L. Beck 1, 36-15-26, tested dry thru ds 2796 ft, arr deepen. Lenz et al's Dale 1, 25-15-26, old hole arr deepen, td 2842 ft; Johnson 2, se sw 24-15-26, tested sw thru ds 2920 ft, wo. East Texas O&G Dev. Co.'s Harvey 1, 2-15-26, sp set 12½-inch cas 102 ft. O'Mara et al's Person 1, 31-15-25, lcn. Big Bill Oil Co.'s Dean 1, nw sw 30-15-25, tested sw, sd 3106 ft. Fitzwater et al's Beck 1, sw se 33-15-26, dk. Corley et al's Rose 1, ne ne 9-16-26, dk pat.

OUACHITA PARISH—Belmont et al's Dean 1, 16-15-17, tested 19 fourbles sw thru ds 2688 ft, cor 2689 ft. A. B. Turner, Tr.'s, Brown 1, 23-15-18, topped Nacatosh 1663 ft, dr 2023 ft. Graves et al's Walker Trustee 1, sw sw 9-14-18, topped Nacatosh 1352 ft, cor 1854 ft. Copenhaver et al's Elliott 1, se se 11-15-17, dk.

PIKE COUNTY—Henderson et al's Tilyou 1, 26-8-24, show heavy oil 567 ft, dr 900 ft.

POPE COUNTY—Ark. La. P. L. Co.'s McFadden & Brooks 2, ne sw 15-9-21, dr hard rock 520 ft.

SCOTT COUNTY — Heavener O&G Co.'s Reser 1, 36-4-26, fsh tools, td 1530 ft. Ark. Valley Gas Co.'s Turner 1, se e 27-5n-30w, lcn.

SEBASTIAN COUNTY—M. W. Greesom's Spears 1, 9-7-29, tested sw wo, td 3515 ft. Mansfield Gas Co.'s Fee 1, 1-4n-31w, show gas 1083 ft, dr sand 1315 ft. Ozark Nat. Gas Co.'s Bates 1, 28-8-30, set 6⅝ cas 2144 ft, dr shale 2450 ft. Lavaca O&G Co.'s Moore 1, nw sw 27-8-30w, set 8½-inch cas 235 ft, sd 1350 ft.

UNION COUNTY—Hickman et al's Hogg 1, 35-16-17, topped Graves sand 2351 ft, dr 2485 ft. Marine Oil Co.'s W. B. Thompson B-2, 10-18-13, lcn. P. Winn Est. F-1, 10-18-13, tested 23 fourbles pipe line oil 3593-3604 ft, set 6⅝ cas 3595 ft, td 3604 ft. Rice et al's Whatley 1, 7-17-15, arr resume dr 92 ft. Malloy & Co.'s Burns 7, nw nw 31-17-15, dr 1208 ft. J. E. Crosbie, Inc.' et al's G. L. Murphy 1, 13-16-16, dr 2360 ft. H. L. Hunt, Inc.'s, Swilley 5, ne ne 28-16-16, rig up. Oilfields Corp.'s J. A. Simmons 1, nw nw 13-18-13, dk.

WASHINGTON COUNTY—Taylor et al's

Runny 1, 1-13-29, fsh tools 1005 ft. Lincoln Lease Holding Synd.'s Townsite 1, 30-15-32, ta 1500 ft. C. H. Willoughby's Jones 1, 34-16-30, sd 2150 ft. O'Hara & Shetterley's Boyd 1, 12-16-32, ta 850 ft. Delbert Graves' Cunningham 1, 14-15-32, sd in gray sand 602 ft.

VAN BUREN COUNTY — J. S. Martin's Scanland 1, 5-9-13, sd 50 ft.

YELL COUNTY — T. Luckett's Balcon 1, 36-7-21, dr 5620 ft.

NORTH LOUISIANA

Completions

DE SOTO PARISH—		
R. O. Roy, Nelson 2, 35-15-13.....	*	1300
Standard Oil Co. of La., Farmer A-3, 5-13-13	*	2894
RED RIVER PARISH—		
E. C. Lucas, La. Delta Pecan 1, 34-13-11	72	2476
SABINE PARISH (Zwolle)—		
Huber & Mann, Newton 1, 25-8-12	25	2417
A. H. Tarver et al, Sabine State Bank 2, 26-8-12	30	2387

BIENVILLE PARISH — Triangle Drilling Co. et al's McDermott 1, 28-18-6w, tested dry in sandy lime 2270 ft, cor 2285 ft, 6⅝ cas 2174 ft. S. P. Borden et al's Thomas 1, 27-16-9w, cor hard lime 3700 ft. Carter & Dobson's White 1, 9-18-6w, dr 1680 ft. Olds & Smith's Brice 1, 15-16-6w, top Cane River 530 ft, dr 1790 ft.

BOSSIER PARISH — Andrews & Davlin's Nattin 1, 15-22-14, set 8-inch cas 1471 ft, 20 ft bro sand, fsh bailer, td 1501 ft. Autrey Oil Co.'s Johnson 1, 34-19-11, sd 60 ft; McDade 1, 28-19-11, cor anhydrites 2424 ft. H. I. Morgan & Shreveport-El Dorado Pipe Line Co.'s Weatherbee B-6, 22-19-11, sp set 10-inch cas 140 ft. Louisiana O. R. Corp.'s Bodcaw B-13, 11-19-11, rig up.

CADDO PARISH—L. B. Mawk's Swann 1, 23-21-14, sd 700 ft. Texas La. P. L. Co.'s Wall 1, 33-23-16, rig up; French 1, sw nw 34-23-16, rig up (formerly carried in name R. W. Norton).

CATAHOULA PARISH — La. G&F Co.'s Tensas Delta A-1, 23-6-5e, dr 2830 ft. National Drilling Co.'s Marsh McMillian 1, 26-9-6e, lcn.

CLAIBORNE PARISH — El Dorado Chief Oil Co.'s Dance 1, 27-20-7w, sd 2240 ft. Triangle Drilling Co.'s Brownfield 1, nw ne 6-19-5w, rig up; J. W. Stevenson 1, sw se 6-19-5w, rig up. Baird Bros. et al's Whittaker 1, 30-20-7w, sd 2100 ft. Bough et al's Alexandria 1, 27-20-8w, dr lime 2128 ft.

CALDWELL PARISH—Hudson et al's Burton 1, 36-12-2e, sd in sw sand 1672 ft.

CONCORDIA PARISH—A. C. Glassell et al's Pecania Plantation 1, 46-8-9e, lcn. Britton-Koonz Nat. Bank 1, 20-8-10e, lcn. Joe Marr et al's Maxwell 1, 35-3-8e, set 8-inch cas 2000 ft, dr 2890 ft.

DE SOTO PARISH—Joe Burnham et al's Hood 1, 30-11-14, set 6⅝ cas 2290 ft, tested 1 mil ft gas 2726-37 ft, sd 2762 ft. Mich-Louzanna O&G Dev. Corp.'s Payne 1, 12-11-16, sd 2070 ft. Odell & Lawton's Tidwell 1, 11-13-14, tested sw show gas 3004 ft, arr plug bottom to shut off sw. Holly Oil Co.'s Talbot 1, 9-13-13, sp set 12½-inch cas 67 ft. Pelham & Bundy's Rhodes 1, 32-13-14, set 6⅝ cas 2800 ft, pumping oil and sw, wo 24-hr gauge, td 3009 ft. J. W. Clark's Tidwell 1, 22-13-14, sp 10-inch cas 180 ft, dr 1500 ft. R. O. Roy's Nelson 2, 35-15-13, dry abn, td 1300 ft. W. H. Weichert's H. Smith 1, 31-14-15, sp 10-inch cas 200 ft, dr 575 ft. Standard Oil Co. of La.'s Farmer A-3, nw ne 5-13-13 sw abn, td 2894 ft; Farmer A-4, 5-13-13, rig up. S. A. Guy et al's Dowling Bros. 1, 31-14-14, 10-inch cas 160 ft, dr 840 ft. Gulf Ref. Co.'s Dry et al 1, 14-11-15, arr abn in bro lime strks blue shale, td 2584 ft.

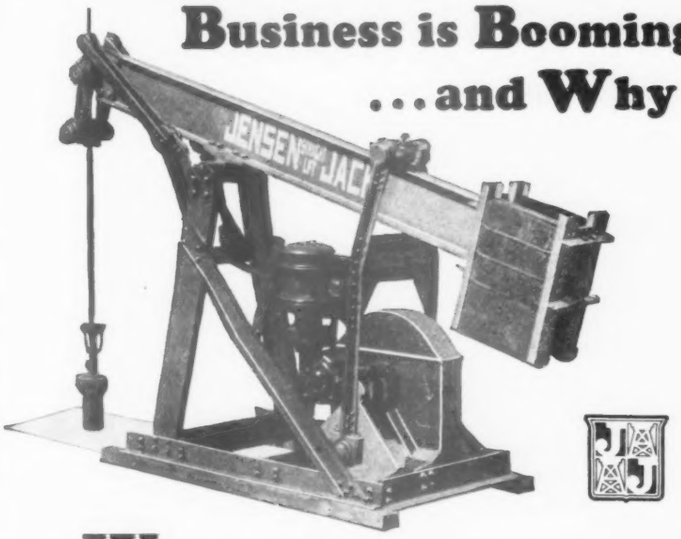
MOREHOUSE PARISH—Pelican Nat. Gas Co.'s Tensas Delta 1, 17-18-6e, dr 2890 ft.

NATCHITOCHES PARISH—W. M. Coats et al's Collins 1, 28-9-10, base chalk 2612 ft, dr sandy shale 2676 ft. J. W. Cooper et al's Cooper 1, 35-11-10, set ds with pckr, failed bail in thru ds in chalk rock, sd 1290 ft. La. Delta Pecan 1, 32-11-10, dr 837 ft; Cooper 2, 32-11-10, lcn. S. D. McDaniels' Clark-Morse 2, 23-5-6w, sd 2536 ft.

OUACHITA PARISH — C. W. Frierson's Haynes 1, se sw 9-17-3e, dr 1390 ft.

RED RIVER PARISH—E. C. Lucas' La. Delta Pecan 1, 34-13-11, set 6-inch cas 2440 ft, 17 ft sand pumping 90 bbls fluid daily, 20 per

Business is Booming ...and Why!



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cent sw, td 2476 ft. Lucky Strike Oil Co.'s Chaffraix 1, 33-12-10, dr 2712 ft. T. G. Shaw's Wilkinson 1, se se 4-12-10w, dr 1010 ft.

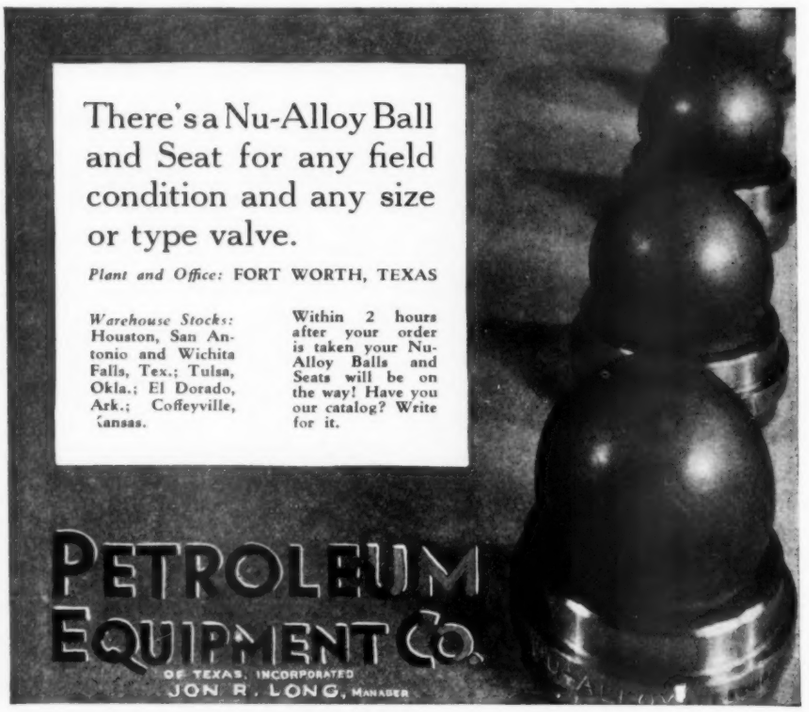
RICHLAND PARISH—W. C. Feazel's Landrum 1, 6-16-7e, dk. Island O&G Co.'s Noe 1, 3-16-5e, set 6-inch cas 2350 ft, topped Monroe gas rock 2365 ft, bailed dry 2419 ft and 2460 ft, arr test, td 2479 ft.

SABINE PARISH — Magnolia Pet. Co.'s Giaque 1, 26-7-14, cor 2822 ft. McDaniels et al's Batson 2, 16-8-12, dr 2136 ft. Loring Oil Co.'s Shull 2, 26-8-12, ta 2643 ft; Middleton 1, 26-8-12, lcn. Huber & Mann's Newton 1, 25-8-12, pumping 25 bbls oil day, td 2417 ft, set 6⅝ cas 2260 ft, topped Zwolle chalk 2333 ft. Lanier & Tarver's Newton 1, 25-8-12, set 6⅝ cas 2325 ft, flowing by heads est 300-500 bbls day, td 2433 ft, 60 ft Zwolle chalk. Lacey Barkett Oil Co.'s D'Anna 1, 26-8-12, set 6⅝ cas 2194 ft, dry at 2412 ft, arr deepen. Ark. Fuel Oil Co.'s Russell 1, 26-8-12, set 7-inch cas 2356 ft, td 2461 ft. R. L. Gay, Tr.'s, Bowman-Hicks 8, 18-7-13, plugged back to 2492 ft, old td 2552 ft; Sabine Lbr. Co. 5, 15-7-14, top marl 2116 ft, set 6⅝ cas 2104 ft, bailed dry 2560 ft. D. H. Reddick et al's Scretchfield 1, 18-9-12, sd 3280 ft. Paramount O&G Co.'s Woolums 1, 11-6-12, set 6-inch cas 2310 ft. Zeke Lohman's Wyatt Lbr. Co. 1, 18-4-11, partly ru, wo. Lohman & Walker's Hubley 1, 21-7-11, set 6-inch cas 1235 ft, cor 2100 ft. Pelican Nat. Gas Co.'s La. Long Leaf 4, 4-7-11, set 6-inch cas 2275 ft, wosr, td 2557 ft. La. Long Leaf 5, nw sw 4-7-11, lcn; Sabine Lbr. Co. 4, 11-7-12, set 6-inch cas 2279 ft, flowing est 2000-3000 bbls oil day, wo gauge, td 2290 ft. Philp et al's Turner 1, nw nw 4-7-11, lcn. G. D. Neff, Tr.'s, Turner A-1, 4-7-11, set 6⅝ cas 2200 ft. Loring Oil Co.'s Garner 1, 4-7-11, set 6⅝ cas 2266 ft; Trammell 1, sw nw 4-7-11, set 6⅝ cas 2276 ft, 400 ft oil in hole, may deepen, td 2400 ft. Stacey et al's Polly 1, 18-8-12, rig up. Texas Co.'s Largent 1, 24-8-12, dk pat. Longoria et al's Belton 1, 31-9-12, rig up. A. C. Glassell's Logan Oil Co. 1, 23-10-13, sd wo water 1800 ft. Franks et al's Hays 1, 22-8-11, rig up. David M. Lide's Ponder 1, 15-17-11, sp 12-inch cas 84 ft. Texas Co.'s Stille 1, 33-8-11, bailed cas dry 2254 ft, dr 2255 ft. Dixie Oil Co.'s Tatum 1, ne ne 26-8-12, rig up; Parrott 1, se ne 26-8-12, sp dr 50 ft. Lyons et al's Williams 1, sw se 32-8-11, sp dr 50 ft. Boone Tr.'s, Turner 1, nw nw 4-7-11, rig up. Wilson & Son's' Gandy-Garrett 1, 4-5-12, fsh for bit 835 ft. Teteco Oil Co.'s La. Long Leaf Lbr. Co. 1, 18-6-12, fsh ds, td 4077 ft.

TENSAS PARISH—A. R. Willis' Curry 1, 39-11-12, flowing sw with show gas, td 2780 ft. Stovall Drilling Co.'s Miller 1, 18-10-10e, arr plug back and set cas about 700 ft to test gas show, td 1560 ft.

WEBSTER PARISH — Sarepta Oil Co.'s Garner 3, 6-22-10, dk. J. P. Evans et al's Crichton 1, 31-18-8w, dr 2230 ft. D. H. Coyle, Tr.'s Frazier 1, ne se 272-23-11, dk.

WEST CARROLL PARISH—Ark. La. P. L. Co.'s Griffith 1, ne nw 17-22-10, sp set 15½-inch cas 158 ft.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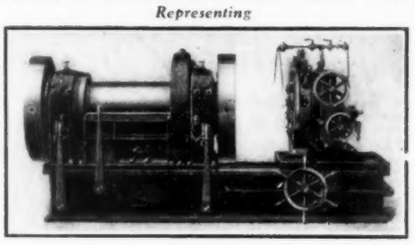

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KANSAS

STEVENS COUNTY — Liberal Gas, Unknown 1, c n½ ne, 4-35-34w, rig.

SUMNER COUNTY—Davidson et al, Strickland 1, sw se 12-34-1w, rig.

MORTON COUNTY — Hydraulic Oil Co., State land 1, nw se, 22-34-43w, sd 3200 ft. Argus Gas Co., Forward Fee 1, c ne 5-34-38w, 8-inch 2542 ft, 2575 ft.

STEVENS COUNTY—Argus Gas Co., Burrows 1, c sw, 31-34-37w, dr 2446 ft. Argus Gas Co., Jester 1, c nw 7-34-37w, 8-inch 2608 ft, rust.

HARPER COUNTY—Atkinson et al, Misak 1, se c 25-34-6w, dr 3339 ft.

SUMNER COUNTY—Disney et al, Foy 1, c e½ se 14-34-1w, rig.

STEVENS COUNTY—Western Prod., Fee 4, c ne, 6-33-36w, rig.

SUMNER COUNTY—Magnolia, Shriner 1, nw sw, 9-33-2e, 10-inch 1981 ft, 8-inch 2667 ft, sd 2820 ft.

CHAUTAUQUA COUNTY—Leighty et al, Helmick, nw se sw ne 5-33-9e, mach.

STEVENS COUNTY—McNabb & Mid-Kansas, Rinehart 1, c ne, 23-32-39w, rig. Mangle, Youngren 1, c se nw 24-32-39w, sd 2523 ft. Argus Gas Co., Olsen 1, c se, 1-32-38w, 8-inch 2470 ft, rust. Argus Gas Co., Davis 1, c sw, 31-32-38w, 8-inch 2356 ft, rust.

COWLEY COUNTY—Tom Fine, Boyd 1, nw ne, 32-32-4e, 12-inch 1265 ft, sd 2650 ft. Roth & Faurot, Reidy 1, c sw nw ne, 8-32-4e, td 912 ft, fsh blr.

HARPER COUNTY—Beeler et al, Bear 1, c ne, 21-31-6w, td 1830 ft sd.

ELK COUNTY—Croft & Frazier, Keys 1, se ne 26-31-6w, stg 6-inch 1972 ft, sd 1989 ft.

KIOWA COUNTY—Phillips-Prairie, Bean 1, ne se 10-30-17w, 3950-55 ft hfw, dr 4115 ft, hfw.

BARBER COUNTY—Allison & Fitzwilliams, Kumberg 1, c se sw se, 2-30-12w, 8-inch 3540 ft, co 3576 ft.

STANTON COUNTY — Argus Gas Co., Plummer 1, c ne, 11-29-41w, dr 1825 ft.

GRANT COUNTY—McKenna et al, Sullivan 1, ne c 12-29-28w, spd and sd.

KINGMAN COUNTY—Slick, Pryor & Lockhart, Wetherall 1, ne sw 36-29-6w, dr 4325 ft.

SEDGWICK COUNTY—Buck et al, McNannama 1, c ne nw nw 2-29-1e, rig.

ELK COUNTY—Alladin, Donnell 1, ne se sw, 26-29-10e, sd 1760 ft.

KIOWA COUNTY—McKenna et al, Ralston 1, c ne, 14-28-20e, ru sd.

BUTLER COUNTY—Farrell et al, Sutter 1, nw c 18-28-7e, sd 830 ft.

KINGMAN COUNTY—Skelly, Miles 1, ne c, 30-27-10w, td 790 ft, rng 15-inch.

FORD COUNTY—McNabb et al, Fowler 1, c se, 26-27-22w, td 400 ft, sd.

GREENWOOD COUNTY—F. Konkay et al, Rook 1, nw ne ne 7-27-12e, td 1836 ft, sd.

PRATT COUNTY—Wilcox, Unknown 1, sw nw 7-26-15w, td 5395 ft hfw, csg trbl.

RENO COUNTY—Valerius, Stevens 1, c ne se ne 6-26-7w, T. Wilcox, td 4230 ft, hfw, co.

BUTLER COUNTY—National Refining Co., Settergren 1, nw c, 32-26-4e, dr 2250 ft.

FORD COUNTY—Swain et al, Kenthorn 1, c nw, 21-25-24w, 6-inch 3775 ft, co.

RENO COUNTY—Shell et al, Popp 1, nw c 11-25-5w, dr 2530 ft.

GREENWOOD COUNTY — Staats et al, Swan 1, ne nw 3-25-12e, spd and sd. Bundy-Smith & O'Neil, Fort 1, ne nw 28-25-13e, 8-inch 1115 ft, dr 1500 ft.

RENO COUNTY—Study, Hawry 1, ne sw 1-23-4w, 3313-33 ft, 22½M gas, show sulphur, sd.

BUTLER COUNTY—Empire & McCullogh, Lilley 1, c sw nw nw, 23-23-5e, sd 350 ft.

STAFFORD COUNTY—Boucher, Groves 1, ne c 9-22-11w, td 2665 ft, 8-inch 2735 ft, fsh 2930 ft.

RENO COUNTY—Alco Royalty Co., Kinney 1, se c 16-22-7w, sd 2980 ft. Braden et al, Theisen 1, se ne 6-22-4w, td 1920 ft, fsh blr.

COFFEY COUNTY—Hegberg et al, Kroft 1, se sw se, 30-22-14e, dr 310 ft. McGregger et al, Wood 1, c ne nw sw 20-22-15e, sd 650 ft. Roberts et al, Hay 1, sw se nw 32-22-15e, dr 1125 ft.

RICE COUNTY—United Pet. Co., Wellman 1, ne c 29-21-9w, 10-inch 2090 ft, dr 2210 ft.

MARION COUNTY—Magnolia, Davis 1, se nw 18-21-2e, 8-inch 2700 ft, sd 2910 ft.

PAWNEE COUNTY—Phillips, Cuthberson 1, c ne 27-20-18w, dr 530 ft.

BARTON COUNTY—McCool et al, Tsern 1,

c sw se ne 12-20-11w, 12-inch 900 ft, dr 1500 ft. McPherson et al, Kans 1-A, se sw 10-20-5w.

RICE COUNTY—Perry et al, Unruh 1, c se ne se 27-20-2w, lcn. Skelton Oil, Ott 1, c se se 16-19-14w, rig. Hershey, Golden & Skelly, Brandenstein 1, c sw, 10-19-102, 3343 ft hfw, td 3414 ft, 3340 ft, 2000 ft oih some water.

MARION COUNTY—Marshall et al, Higgens 1, ne c 33-19-5e, rig.

LYON COUNTY—Griffith et al, King 1, nw c 8-19-10w, 12-inch 910 ft, sd.

RUSH COUNTY—Syndicate Oil, Tannen 1, c sw 11-19-16w, lcn.

RICE COUNTY—Jasper & Beschka, Cupp 1, sw ne 22-18-9w, dr 1230 ft.

McPHERSON COUNTY—Alladin Pet. Larson 1, c nw, 22-18-4w, rog.

RUSH COUNTY—McPherson, Brack 1, c nw, 24-17-16w, td 3980 ft, fsh tools.

ELLSWORTH COUNTY — Slick et al, Hecken 1, nw c 24-17-10w, 2980-91 ft, 6M gas, co.

McPHERSON COUNTY—Slick et al, Sandell 1, c sw sw, 35-17-3w, rig.

MARION COUNTY—Dixie & Arkansas Fuel Hacker 1, nw ne 6-17-1e, 6-inch 3327 ft, dr 3330 ft.

RUSH COUNTY—Prairie, Leiker 1, c nw sw sw 5-16-13w, 3337-52 ft 1400 ft oih, exhausted on swab and hfw, sd 3368 ft.

ELLSWORTH COUNTY—Alladin & Marland, Barecky 1, c nw 3-16-10w, ru.

MORRIS COUNTY—Urschell et al, Scott 1, ne sw 6-16-6e, sd 2420 ft. Pratt et al, Whiting 1A, nw sw sw 34-16-6e, sd 350 ft. Hankenson et al, Sessnum 1, sw se 24-16-9e, rig.

ELLIS COUNTY—Rush Oil Co., Gatewood 1, nw 4-15-20w, sd 3825 ft.

RUSSELL COUNTY—Empire, Sherwood 1, c se nw nw 21-14-13w, ru.

ELLSWORTH COUNTY — Milton et al, Kester 1, se ne 6-14-9w, ru.

OSAGE COUNTY—Riggs & Smith, Wood 1, c se nw 21-14-15e, sd 410 ft.

DOUGLAS COUNTY — Steinbushel et al, Unknown 1, sw ne nw 34-14-21e, td 1110 ft, sd.

GOVE COUNTY—Valerius et al, Todd 1, nw c 24-13-27w, 6-inch 4174 ft, co.

RUSSELL COUNTY — Austin Drlg. Co., Rockefeller 1, se c 6-13-12w, sd 1884 ft.

SALINE COUNTY—Twin Mounds Oil Co., Weis 1, c w½ ne nw 20-13-4w, td 2125 ft, sd.

DICKINSON COUNTY—Severs et al, Lerringood 1, ne sw 13-13-2e, dr 2410 ft.

GOVE COUNTY — Johnson & Atlantic, Wright 1, c se ne 11-12-27w, dr 1075 ft.

PAWNEE COUNTY—Central Commercial, Helms 1, se ne 2-12-20w, sd 3705 ft, sd.

DICKINSON COUNTY — E. H. Morgan, Whitehair 1, nw se 9-12-1e, dr 3300 ft.

RUSSELL COUNTY—Gilbreath et al, Bratton 1, c ne 33-11-13w, dr 2155 ft.

ROOKS COUNTY — Streeter & Stearns, Conger 1, c se nw ne, 16-10-16w, dr 2210 ft.

CLAY COUNTY—Chrisler, Tivier 1, sw c 19-8-3e, spd and sd.

MARSHALL COUNTY—Swicker & Simcox, Remple 1, c n½ nw 22-4-9e, sd 1245 ft.

WASHINGTON COUNTY — Simcox, Penwell 1, nw se ne 16-3-3e, sd 510 ft.

MARSHALL COUNTY—Blazier et al, Runkel 1, se nw 13-2-6e, spd and sd.

NEBRASKA

FURNAS COUNTY — Graham Bros., Edwards 1, nw sw, 13.2n-22w, sd 3250 ft. Southwestern Pet. of Nebr., Montague 1, se sw sw 28-1n-22w, sd 1750 ft.

WEBSTER COUNTY — Mid-States Expl., Platt 1, c se 3-1n-11w, 8-inch 2307 ft, dr 2370 ft.

OKLAHOMA

WOODS COUNTY—T 27n, R 16w, Sec. 33, Sinclair, Share 1, c ne sw, show oil 7137-38½ ft, hfw 7160 ft, dr 7275 ft.

ALFALFA COUNTY—T 27n, R 11w, Sec. 12, Smith Bros., Forbes 1, ne c se nw nw, td 1420 ft, sd.

KAY COUNTY — T 27n, R we, Sec 17, Blankenship et al, Hansen 1, sw nw sw, water 3612-16 ft, pb and shot 10, 20, 40 qts at 3587 ft to 3597 ft, pumps 20 bbls, try to run liner.

HARPER COUNTY—T 26n, R 24w, Sec. 14, Sinclair, Howell 1, c sw sw, td 8590 ft, pb 6700 ft, shot 50 qts 5250-5400 ft, 12M gas and 50 bbls gasoline 12 hrs.

GRANT COUNTY—T 26n, R 5w, Sec. 25, Bu-Vi-Bar et al, Hurst 1, c sw, show oil gas water 5215 to 5218 ft, dr 5330 ft.

KAY COUNTY — T 26n, R 1w, Sec. [illegible]

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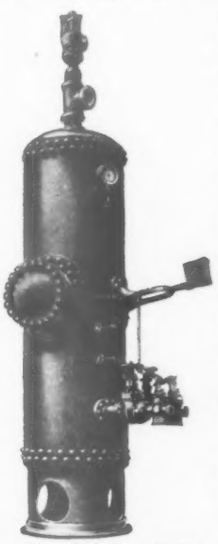

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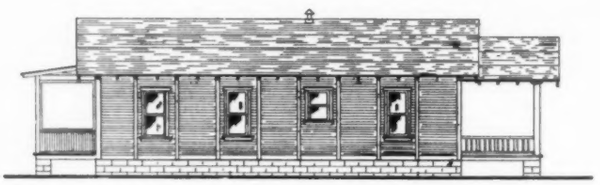

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Boucher et al, Jefferson 1, ne c sw, fsh 970 ft.

HARPER COUNTY—T 25n, R 20w, Sec. 12, Empire, Bruce 1, sw c ne ne sw, dr 6650 ft.

WOODS COUNTY—T 25n, R 15w, Sec. 10, Bu-Vi-Bar et al, Fee 1, se c sw, sd 6104 ft.

GRANT COUNTY—T 25n, R 4w, Sec. 22, Cowden, Vollmer 2, ne c se ne sw, sd 5640 ft.

ALFALFA COUNTY—T 24n, R 11w, Sec. 14, J. V. Bailey et al, Acres 1, c sw ne, sd 4660 ft, woc.

GARFIELD COUNTY—T 24n, R 6w, Sec. 9, Pulse & Beamer et al, White 1, se c nw, fsh 5721 ft.

WOODWARD COUNTY—T 23n, R 17w, Sec. 23, Transcontinental & Prairie, Wilbur 1, ne c, sd 7425 ft.

NOBLE COUNTY—T 21n, R 1e, Sec. 12, Barnsdall et al, Minch 1, nw c sw, dr 1450 ft.

BLAINE COUNTY—T 19n, R 10w, Sec. 13, Washoma Pet. Co., Phillips 1, c nw sw, 8-inch 3805 ft, dr out cmt.

LOGAN COUNTY—T 18n, R 3w, Sec. 33, Healey et al, Quier 1, se c sw sd 3970 ft. T 17n, R 4w, Sec. 34, Eason Oil Co., Katchor 1, sw ne sw, dr 4839 ft. T 17n, R 2w, Sec. 24, Slick, Ramsey & Prairie, Jones 1, c se nw, dr 4835 ft. T 17n, R 1e, Sec. 22, Slick & Prairie, Sims 1, ne sw se, cement off cave 5364 ft.

KINGFISHER COUNTY — T 16n, R 7w, Sec. 6, Gault Brown, Boch 1, c nw se (owdd) cored 6022 ft, dr 6149 ft.

LOGAN COUNTY—T 16n, R 1w, Sec. 33, Slick & Prairie, Morgan 1, c nw ne, set csg 5600 ft.

KINGFISHER COUNTY — T 15n, R 5w, Sec. 23, Slick & Prairie, Wright 1, c nw sw, dr 5010 ft.

PAWNEE COUNTY—T 23n, R 5e, Sec. 15, Cochran et al, McFadden 1, ne c sw, rig. T 22n, R 3e, Sec. 26, Wentz Oil Corp., Lillie 1, se sw ne, dr 2328 ft. T 20n, R 5e, Sec. 1, Flynn, Morgan et al, Freeman 1, nw c, dr 1740 ft. T 20n, R 5e, Sec. 22, J. M. Scott et al, Jones 1, sw c ne, ur 6-inch 3449 ft.

LINCOLN COUNTY—T 14n, R 6e, Sec. 5, Atlantic Oil Prod. Co., Ryan 1, se c nw, dr 4553 ft.

OKFUSKEE COUNTY—T 12n, R 9e, Sec. 36, Henry Oil Co., Harjo 1, nw c, dr 4092 ft. T 12n, R 10e, Sec. 3, Sheppard et al, Sheppard 1, se nw sw, water 3690 ft, sd.

MUSKOGEE COUNTY—T 11n, R 19e Sec. 21, E. Mills et al, C. J. Martin 1, nw c se, sd 1001 ft.

PITTSBURG COUNTY—T 9n, R 16e, Sec. 32, Pattison et al, McDuff 1, sw c nw se, shot 130 qts on bottom 5660 ft, co. T 8n, R 14e, Sec. 14, C. D. Cannady, Smith 1, nw c, rig. T 7n, R 13e, Sec. 18, Apex Oil Co., Walker 1, nw c se, dr 430 ft.

OKLAHOMA COUNTY—T 14n, R 3w, Sec. 32, Mid-Kansas et al, Messer 1, sw c, td 6495 ft, td 6771 ft, flow 450 bbls 24 hrs, shot 90 and 170 qts co. T 12n, R 4w, Sec. 17, C. F. Cuniff, Trustee, St Hoseph 1, sw c ne nw se, sd 6700 ft. T 11n, R 2w, Sec. 3, Ryan Consol. shot 45 qts 6245 ft, bailing.

CLEVELAND COUNTY—T 6n, R 1e, Sec. 20, Harris & McNeal, Corbett 1, c sw ne, td 6518 ft, bailed small show oil, sd.

OKFUSKEE COUNTY—T 11n, R 8e, Sec. 11, Carter et al, Keys 1, sw ne sw, sand 3432-50 ft, show oil, sd 3495 ft.

POTTAWATOMIE COUNTY—T 10n, R 4e, Sec. 10, Shell, Baker 1, nw c se, lcn.

SEMINOLE COUNTY—T 10n, R 6e, Sec. 19, Bunte et al, Bruner 1, se c nw, cellar.

HUGHES COUNTY—T 9n, R 12e, Sec. 29, Cannady, Kanard 1, nw c sw, td 4468-4506 ft, hfw, pb 3540 ft sd.

POTTAWATOMIE COUNTY—T 8n, R 3e, Sec. 3, Texas, Knight 1, sw c se, td 5010 ft, fshg. T 8n, R 4e, Sec. 11, Lipp et al, Helmerich 1, ne c nw, 8-inch 4230 ft. T 7n, R 3e, Sec. 19, Drippleman et al, Fundis 1, se c ne, dr 1720 ft. T 6n, R 5e, Sec. 5, Robinson et al, Croush 1, nw c sw, rog.

SEMINOLE COUNTY—T 6n, R 7e, Sec. 9, Neal & Milton, Thomas 1, nw c ne sw, set surface pipe.

ROGER MILLS COUNTY—T 13n, R 21w, Sec. 10, Richfield, Hiatt 1, se c, rig. T 12n, R 24w, Sec. 23, Bucy & Stone, Williams 1, c sw, sd 2243 ft.

BECKHAM COUNTY—T 10n, R 22w, Sec. 29, J. F. Cuniff et al, Brower 1, c nw, sd 3793 ft.

CANADIAN COUNTY—T 10n, R 6w, Sec. 1, J. V. Bailey, Robinson 1, c ne nw, sd 150 ft.

CADDO COUNTY—T 9n, R 13w, Sec. 8, J. J. Wright et al, Boys 1, ne c, lcn.

BECKHAM COUNTY—T 8n, R 22w, Sec. 20, Carson et al, Denby 1, sw se ne, sd 1625 ft.

GREER COUNTY—T 7n, R 22w, Sec. 1, Good & Dowell, Cliffel 1, nw c sd 1265 ft. T 7n, R 21w, Sec. 23, H. A. French et al, Murph 1, sw nw se, sd 100 ft.

CADDO COUNTY—T 6n, R 11w, Sec. 24, Simms Pet. Co., et al, 1, se c nw, sd 38 ft.

HARMON COUNTY—T 4n, R 24w, Sec. 17, Harmon-Tex Oil Co., Headley 1, ne c, td 2374 ft, small show oil and gas, co.

COMANCHE COUNTY—T 3n, R 9w, Sec. 3, Okla. Nat. Gas Co., Doebel 1, ne c sw sw sw, sd 1450 ft.

HUGHES COUNTY—T 5n, R 10e, Sec. 30, A. V. Erwin, Jones 1, se c ne, sand 4270-75 ft, rust. T 5n, R 11e, Sec. 15, J. J. Wright, Roberts 1, se c sw, 2M gas 915-18 ft, hfw sd 1645 ft.

GARVIN COUNTY—T 4n, R 3e, Sec. 10, C. R. Obermeyer, Stricklin 1, ne c sw, sand 2747-65 ft, 200 ft oih, td 2880 ft, dr out. T 3n, R 4w, Sec. 5, McMin & Arrowsmith, Carson 1, ne c nw, sd 3026 ft.

COAL COUNTY — T 3n, R 9e, Sec. 26, Blackwell, Gumm 1, nw c, dr 4162 ft.

ATOKA COUNTY—T 3s, R 9e, Sec. 18, Brookshire et al, Guinn 1, nw c, sd 80 ft.

CARTER COUNTY—T 4s, R 2e, Sec. 32, Tex-Okla. Drilling Co., Anderson 1, se ne se, dr by, td 2580 ft.

LOVE COUNTY—T 6s, R 3w, Sec. 20, Harry Hobbs, Steele 1, sw c ne ne sw, sd 3130 ft.

BRYAN COUNTY—T 6s, R 7e, Sec. 8, Geo. L. Pace, Hicks 1, sw c nw, sd 1250 ft. T 6s, R 7e, Sec. 14, W. A. Johnson, Ussery 1, se c, sd 325 ft. T 6s, R 9e, Sec. 35, O. P. Bush, Commerce Trust Co. 1, ne c, sd 600 ft.

NORTH CALIFORNIA

KERN COUNTY

ANTELOPE VALLEY—Meridian Oil Co.'s No. 1, 11-9-15, dr hard sand 3400 ft.

BELRIDGE—Belridge Oil Co.'s Fee 15, sdtr iron 5408 ft. General Pet.'s Berry 1, 30-28-21, dr shale 700 ft. Ohio's Bloemer 1, 36-27-20, lcn. Richfield's Belridge 1, 22-27-20, dr shale 4940 ft. Rio Grande's Garcia 1, 18-28-22, fsh 3680 ft. K. C. Wallace's No. 1, 32-29-21, dr shale, 3722 ft.

BUENA VISTA HILLS—Federal Drilling Co.'s No. 1, 20-31-24, dr 875 ft.

BUTTONWILLOW — Nordon Oil Corp.'s Salisbury 1, fsh for drill pipe 5065 ft.

DEVILS DEN—Standard's Alferitz 1, 14-25-18, rigging up rotary.

EDISON—Petroleum Securities Co.'s Johnson-Moss 1, 14-29-29, dr shell 2750 ft.

McKITTRICK — California Oil Producers' Wisecarver 1, 30-30-22, sd 5040 ft.

PATTIWAY—H. A. Bardeen's Ramsey 1, 10-10-23, dr gray sand 4025 ft.

SEMITROPIC—Shell's Williams 1, 17-27-23, dr shale 6275 ft.

SHALE HILLS—Rio-Cal Pet. Co.'s No. 1, 2-27-18, sr 1250 ft, td 1927 ft.

WEED PATCH—Shelly's Porter-Day 1, 29-30-29, fsh for liner 5370 ft.

SANTA BARBARA COUNTY

CAMPBELL'S POINT — Bolsa Chica Oil Corp.'s Augur Permit 191-1, dr shale 2212 ft.

GATO RIDGE — Barnsdall's Tegnazzini 1, 9-8-32, dr shale 4280 ft.

GOLETA—General Pet.'s More 3, dr shale 2115 ft. George W. Johnson's Duncan 1, co 3970 ft, will deepen.

LOMPOC—Prairie's Shyvers 1, 11-7-35, dr hard gray sand 5520 ft.

LOS ALAMOS—N. S. Wilson's No. 1, 2-7-33, rigging up rotary.

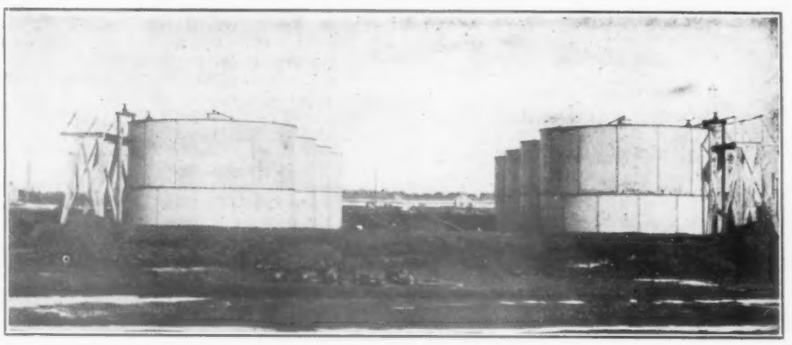
NAPLES—J. H. Cochran's No. 1, 7-4-29, dr shale 3722 ft.

ORELLA—General Pet.s Erburu 8, 32-5-30, dr gray sand 1660 ft; Erburu 10, lcn; Erburu 11, lcn.

POINT CONCEPCION—Standard's Gerber 1, dr gray sand 6300 ft. Universal Consolidated Oil Co.'s Concepcion 1, 30-5-34, dr gray sand 5005 ft.

PURISIMA — Vaqueros-Major Oil Co.'s Union Annex 2, 6-7-33, running liner, td 2995 ft; Union Annex 3, lcn.

SANTA MARIA — O. C. Fields Gasoline Co.'s Norswing 1, 8-9-33, dr shale 5462 ft;



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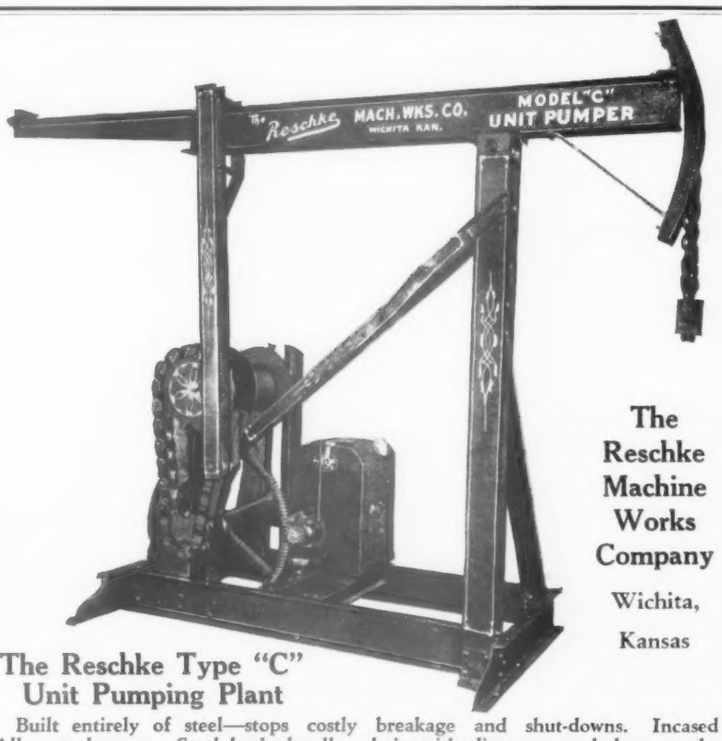

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Specializing in Oil Law and Land Law

Bradley 1, pulling 4¾ cas, td 5265 ft. Western Gulf's Bradley 1, dr shale 3275 ft.

VENTURA COUNTY

HOPPER CANYON—Rio Grande Oil Co.'s Lankershim 1, 13-4-19, co 1820 ft. George H. Hadley's No. 1, 13-4-19, co 900 ft.

LOCKWOOD VALLEY—Lockwood Valley Oil Co.'s No. 1, rigging up rotary.

PIRU—A. N. Macrate's Torey-Eureka 1, 32-4-18, rigging up rotary.

RINCON — Chanslor-Canfield Midway Oil Co.'s Hobson A-2, co 7410 ft, td 7480 ft, well flowed oil on compressor.

SANTA MONICA MOUNTAINS—Olympic Corp.'s Calabasas 1, 18-1-17, fsh for drill pipe, td 5669 ft.

SANTA PAULA — California Republic Pet. Corp.'s Darlings 1, 23-4-21, rigging up rotary. George C. Thompson's No. 1, 15-4-21, dr shale 2262 ft.

SESPE—Superior's Kirtlan 1, 15-4-21, re-dr 1135 ft.

SOMIS—Shell's Everett 1, dr shale 3315 ft.

SOUTH MOUNTAIN — Ring Pet. Corp.'s Converse 1, rigging up to deepen from 4910 ft.

VENTURA—Prairie's Sexton 1, 30-3-22, dr shale 7465 ft.

MISCELLANEOUS

FRESNO COUNTY — Ohio's Welch-Brix A-1, 8-21-15, dr shale 4855 ft.

JACALITOS—Associated's Mitchell 1, lcn; dr water well.

KINGS COUNTY—Friend and Fiske's No. 1, dr shale 333 ft. J. E. O'Donnell's Brennan 1, lcn.

MENDOCINO COUNTY — Twin State Oil Co.'s Soldani 1, 14-12-17, dr shale 4570 ft.

MONTEREY COUNTY—Standard's Piedmont 1, 23-22-7, dr shale 5535 ft.

SAN LUIS OBISPO COUNTY — C. J. Schilling's Potter 1, 1-29-12, dr shale 350 ft. Continental's Hellman 1, 26-25-11, lcn. Pismo Dome Oil Co.'s Pricco 2-A, 5-31-13, dr shale 3000 ft. Texas Pacific Coal and Oil Co.'s No. 1, 25-32-14, dr shale 4210 ft.

TULARE COUNTY — Big Four Oil Co.'s No. 1, 29-23-27, fsh for drill pipe, td 4330 ft. Blue and Waller's Martin 1, 27-22-27, rig. Cummings Pet. Corp.'s No. 1, 27-22-27, dr sand 200 ft. Campbell Oil Co.'s No. 1, 22-22-27, dr shale 707 ft. William Hallock's Fee 1, 34-22-27, sd 1090 ft. Hagerty and Caine's No. 1, 7-23-28, dr hard rock 755 ft. Kettleman East Side Trust's No. 1, 21-22-27, dr shale 200 ft. Larson Oil Co.'s Best 1, 11-23-27, dr hard sand 966 ft; Best 2, 11-23-27, dr 100 ft. Mills and Wilson's No. 1, 35-22-27, pumping oil, sand and water, td 915 ft. Rayatt Oil Co.'s Hinshaw 1, 34-22-27, dr shale, streaks oil sand 900 ft. United Kern Pet. Co.'s No. 1, 34-22-27, dr shale 865 ft. Western Oil and Exploration Co.'s Gardiner 1, 35-22-27, pumping water and oil, td 1022 ft.

YOLO COUNTY—George F. Getty's Guinda 1, 23-12-3, dr shale and gas sand 1835 ft.

SOUTH CALIFORNIA

ATHENS—McKeon Oil Co.'s No. 1, rigging up rotary.

CORONA—Western Gulf's Abacherli 1, lcn.

COMPTON — Central Heights Oil Corp.'s Veach 1, re-dr 2275 ft, td 5095 ft.

DOMINGUEZ—Tenacity Oil Co.'s Del Amo 1, plugged to 8490 ft, td 8575 ft, sd.

FULLERTON — Standard's Bastanchury 1, plugged to 6770 ft, will make test, td 7038 ft, produced commercially at higher level.

HERMOSA — California-Ventura Oil Co.'s Holston 1, co 3390 ft; Sadler 1, rigging up rotary.

LA HABRA—R. C. Rucker's Grazide 2, rigging up rotary. Union's Sansinena 11, 6⅝-inch cas cmt 4445 ft, td 4810 ft.

LOS ANGELES-ALHAMBRE — Fred Hammer's Alhambra 1, rig. Widney, Widney & Miller's No. 1, lcn.

MONTEREY PARK—Celito Oil Co.'s Jepson 1, co 5275 ft.

NEWHALL — Consolidated Oil Co.'s Hammond 1, swabbing 2190 ft. Dudley-Newhall Synd.'s No. 1, dr shale 1560 ft. National Securities Co.'s Seeple 1, dr shale 1960 ft. Southern California Drilling Co.'s Needham 4, dr gray sand 2800 ft.

NEWPORT — Standard's Irvine 1, coring 2155 ft.

PLAYA DEL REY—West Port Oil Co.'s No. 1, dr shale 3525 ft. Hollywood Synd.'s No. 1, lcn. Olympic Oil and Realty Co.'s No. 1, dr shale 3115 ft.

POMONA—Lamona Oil Assn.'s No. 1, dr hard sand and granite 945 ft.

PUENTE—Arden Oil Co.'s Bidart-Rowland 1, dr out cmt below 8¼-inch cas at 2828 ft, td 2896 ft. Rio Hondo Petroleum Co.'s Rowland 1, coring oil sand 3530 ft. Western Gulf's Diamond Bar 1, dr hard sand 6688 ft.

SAN FERNANDO—Shell's Andrews 1-1, dr hard sand 5015 ft.

SANTA FE SPRINGS — L. S. Hartman's Campos 1, sd 4315 ft. Union's Orchardale 1, dr shale 4820 ft.

SAN JUAN CAPISTRANO—Okay No. 2's Foster 2, dr gray sand 4520 ft.

WILMINGTON — Rio Grande's Watson 1, fsh 6297 ft.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24, 1912

Of The Oil Weekly, published weekly at Houston, Texas, for October 1, 1930.

State of Texas, County of Harris:

Before me, a Notary Public in and for the State and county aforesaid, personally appeared A. L. Burns, who, having been duly sworn according to law, deposes and says that he is the Business Manager, of the Oil Weekly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, to-wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are:

Publisher: R. L. Dudley, 3238 Huntington Drive, Houston, Texas.

Editor: S. W. Robinson, 5002 Scotland, Houston, Texas.

Managing Editor: J. Kent Ridley, 4401 Greely, Houston, Texas.

Business Manager: A. L. Burns, 4311 San Jacinto, Houston, Texas.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

The Gulf Publishing Company, Houston, Texas; James Anderson, Houston, Texas; R. L. Blaffer, Houston, Texas; Mrs. Sarah Campbell Blaffer, Houston, Texas; A. L. Burns, Houston, Texas; J. F. Carter, Jr., Tulsa, Oklahoma; Dr. N. L. Dudley, Goose Creek, Texas; R. L. Dudley, Houston, Texas; W. S. Farish, Houston, Texas; Wm. V. Gross, Houston, Texas; Howard R. Hughes, Houston, Texas; Chas. H. Lane, Houston, Texas; Wallace E. Pratt, Houston, Texas; J. Kent Ridley, Houston, Texas; S. W. Robinson, Houston, Texas; R. S. Sterling, Houston, Texas; R. P. Swinsky, New York, N. Y.; O. R. Waller, Chicago, Ill.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.)

Houston National Bank, Houston, Texas.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

A. L. BURNS,
Business Manager.

Sworn to and subscribed before me this 24th day of September, 1930.

(Seal) J. KENT RIDLEY.

(My commission expires June 30, 1931.)

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In addition to a "50" drill at work, and a "40" drill, the Sullivan exhibit included the new "G-V" Pipe Line Painter, two Sullite Lighting Plants, Stringalite, a Turbinair Cathead, a Portable Air Compressor, and a large core barrel.

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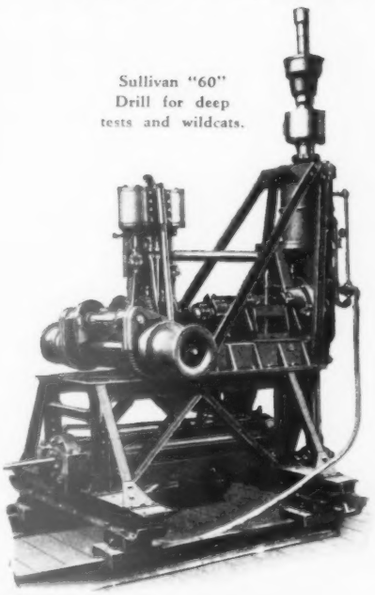

Sullivan "60" Drill for deep tests and wildcats.

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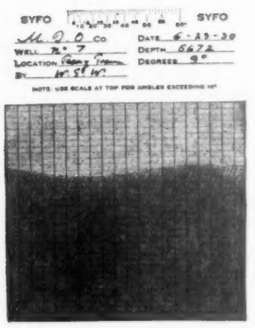

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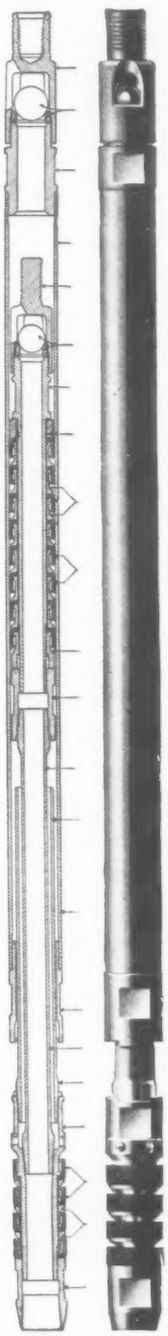
Epco Surge Tube Pump

ECONOMY PUMP & TOOL COMPANY

Economy Pump & Oil Tool Company is now marketing a companion to the Standard Epco pump. This interesting addition to the Epco line is known as the Epco surge-tube pump. The manufacturer states that it is designed to fill a demand for an inexpensive, inverted type of pump.



Epco Pump

This pump employs a new principle in design of inverted pumps. As the accompanying drawing shows, the Epco surge-tube pump is not unlike the usual inverted pump at its upper end. At the lower end the cup standing valve body is of modified form and an additional tube is used. This tube is known as the "surge-tube," and is the outer of the two tubes. An annular space is thus provided between these tubes for the passage of surging fluid. Both tubes are threaded to the cup standing valve body which has special ports also for the passage of fluid.

The operation of the pump is very similar to that of any inverted pump. At the upper end of the pump the usual pumping action takes place, but at the lower end an additional, unique result is obtained. As the barrel tube travels upwardly, fluid is forced down between the surge-tube and the standing tube and discharges out through the ports in the cup standing valve body. When the stroke is reversed and the barrel tube travels down, fluid enters the ports and passes up between the tubes. In this manner the lowermost point in the pump is constantly subjected to a washing or surging of fluid with the object of preventing sand or sediment from settling around the cup standing valve body and the lower end of the standing tube. It differs from the ordinary inverted pump in that provision is made for preventing this accumulation of settlings and making it easy to remove the assembly without an expensive tubing job. Thus such settlings are kept from piling up and making the end of the barrel tube "pump down," an action that would involve possible damage to the sucker rods and pump parts.

The necessity for a wash at the base of the inverted pump has long been recognized and attempts have been made to displace this sand by discharging the fluid being pumped at the lowermost point.

The Epco surge-tube pump has full capacity, extreme simplicity and no complicated parts nor under-sized balls and seats. The result is accomplished by the addition of one tube and a slight modification to the usual standing valve body.

The surging action does not interfere with the usual pumping action. It is pointed out that even after the pumping action has failed due to worn-out cups, the surging action continues and with greater force, for, after the cups have been cut away, the upper pump chamber also joins in enhancing the surging action. This is an important feature in view of the fact that after the upward movement of the oil has ceased, there is a greater tendency for sand to precipitate out of the fluid in the tubing and settle around the pump.

The Epco surge-tube pump and the standard Epco pump are being marketed through National Supply Companies.

New Sphero Valve

THE FAIRBANKS COMPANY

The Fairbanks Company, 393-399 Lafayette Street, New York City, announces the new Sphero valve, designed especially to add accessibility, adjustability and economical operation.

The seat rings or ball plug may be removed and replaced without removing the body of the valve from the pipe line. An exact adjustment of the seat rings may be made by external adjustment of a wedge. It is applicable in all lines, from field pipe lines to consumer lines.

This valve offers the feature of quick opening, requiring only a quarter turn to open or close and yet providing a clear, unobstructed portway. It provides a leak-proof, tight seal on service from mud to air or high test gas or gasoline.

The new valves may be furnished in any metal that can be cast, including chrome or nickel alloy steel, acid resisting bronze or other metals resistant to acid and corrosive attack.

The new Sphero bulletin V-103 carries full details and illustrations on the valve. A copy of this bulletin is available upon request to the company at the above address.

Universal Pitman

AXELSON MANUFACTURING COMPANY

Axelson Manufacturing Company, Ltd., Los Angeles, is now manufacturing a new type of universal pitman equipped with Timken roller bearings, the bearings taking the place of the plain fabric bearings formerly used in the wrist pin housing on the piston. The Timken bearings are arranged in a spherical housing. The anti-friction bearings are packed in grease at the factory and for this reason lubrication is required at much less frequent intervals. The installation being completely enclosed keeps the bearings free from abrasive dirt and foreign matter which would be present where the ordinary type of lubricant is used upon the unprotected pitman housing.

This further serves to eliminate the fire hazard of the usual oil soaked wood which is found beneath the conventional pitman.

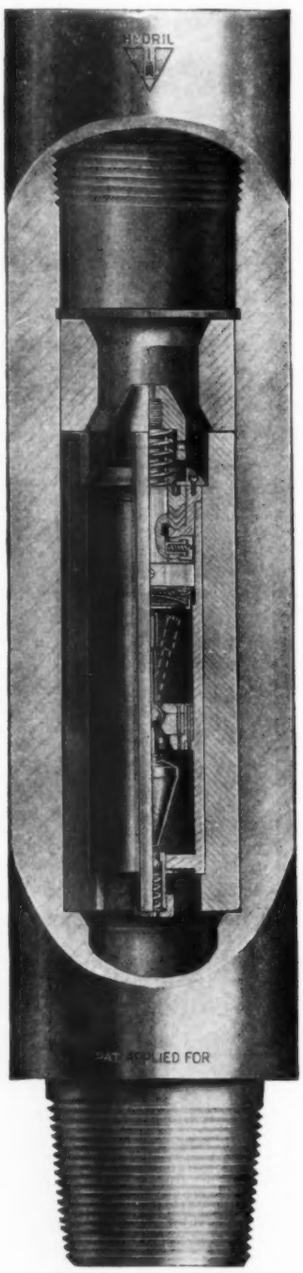
Where the device has been tested the shock which had previously been attributed to the fluid hammer was found to have been eliminated, the manufacturer states.

NEW EQUIPMENT FOR THE FIELD

Doheny-Stone Drill

DOHENY-STONE DRILL COMPANY

Doheny Stone Drill Company, Los Angeles, is introducing the Hydril angle indicator for surveying a hole while drilling is under way. The instrument, as shown here, is carried in a sub which becomes a part of the drill collar.



Hydril Angle Indicator

The readings are taken on aluminum record discs, and they indicate the angle of the hole at the point where the reading is taken. These discs become a permanent record of the course of the well. Frank R. Seaver, general manager of the Doheny Stone Drill Company, says the Hydril angle indicator has been in wide use for many months. The operator now has a quick scientific method to survey the hole while drilling without requiring a special run of the drill string. Drilling is not delayed. No mechanical calculation or auxiliary reading apparatus is necessary because the readings on the record discs are calibrated in degrees and the reading is direct.

The Hydril angle indicator is being sold outright to operators in all United States and foreign fields.

The company's headquarters office, Petroleum Securities Building, Los Angeles, will furnish detailed information about this instrument upon request.

"Tom Thumb" Pipe Machine

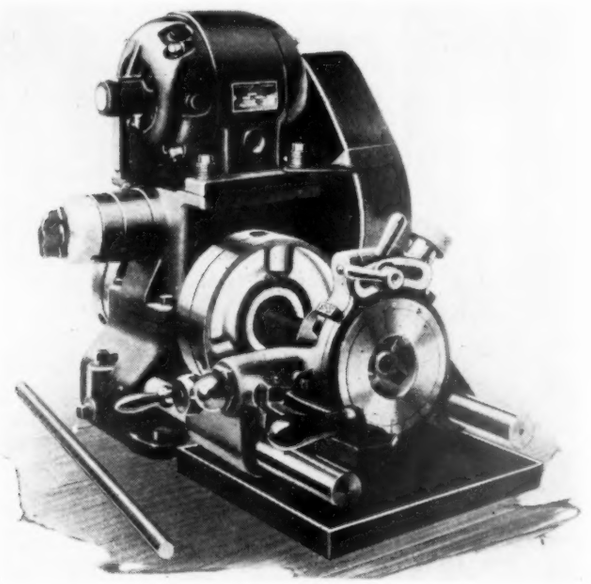
THE OSTER MANUFACTURING COMPANY

The Oster Manufacturing Company, Cleveland, announces the "Tom Thumb" pipe machine, said to be the smallest, complete pipe machine ever marketed.

While the machine will cut-off, thread, ream and chamfer all sizes of pipe from ¼-inch to 1¼-inch in size, its overall dimensions are only 18½ inches in height, 16 inches in width and 23½ inches in depth. Included in these dimensions is the ½ H.P domestic electric universal motor that automatically adjusts its speed to the pull on the dies.

According to the manufacturers, tests have been made which show that the "Tom Thumb" pipe machine will put a standard thread on a 1¼-inch pipe in 18 seconds, and on a ¼-inch pipe in 12 seconds. The actual floor to floor time—including chucking, threading, reaming, cutting-off and removing the pipe from the machine—requires only one minute and 17 seconds for 1¼-inch threads, 58 seconds for ½-inch threads and 45 seconds for ¼-inch threads—a much faster speed than can be obtained by hand.

The "Tom Thumb" pipe machine was designed and built for the average plumbing shop. However, a special bolt chuck has been designed for use with the machine, that makes it possible to thread bolts from ⅜-inch to 1½-inch with ease, making the machine ideal for small machine shop use.



New Oster Pipe Machine

DANCO 10,000-LB. FORGED STEEL FITTINGS

Danco High Pressure Fittings are rapidly winning acceptance in Foreign Fields where high pressures are among the major problems of the operator.

Danco High Pressure Fittings have become recognized as leaders in United States Fields through satisfactory performance where the highest pressures are encountered.

Quality

A vital factor in the high quality of Forged Steel Fittings is the steel used in its manufacture, which is made especially for this purpose, under the supervision of skilled metallurgists. To avoid costly blowouts, it is economy to use the best fittings obtainable. For perfect control with absolute safety, use DANCO 10,000-S.D. Forged Steel Crosses, Tees, Ells, Flow Chokes, Nipples, Bull Plugs, Flange Unions and Swage Nipples for the Christmas-Tree. Bored, machined and threaded on the lathe, from solid forgings of highest quality steel, they have ample reserve strength for any gas or oil pressure yet encountered in any field.

STANDARD DAY-A-NITE CO.

1212 NANCE STREET HOUSTON, TEXAS

Manufacturers and Supply Dealers Notes

J. T. McCarthy, president of the Hercules Supply Company, announces the opening of a new store at Van, Texas, to serve the East Texas fields. This makes the third Hercules store opened this year, the others being at Refugio and Pettus.

J. A. Morgan of Tulsa is back with Smith Separator Company in charge of sales after an absence since August of last year when he left the company to engage in business for himself. His new connection dates from October 1. He joined Smith Separator Company organization in 1923 and was continuously associated with the sales and engineering end of the business from that time until August of last year.

Republic Steel Corporation has opened a district sales office in Tulsa, with C. S. Powers in charge as district sales manager, it is announced by Norris J. Clarke, vice-president in charge of sales of the corporation. Mrs. Powers formerly was connected with the company's Detroit sales office.

The Tulsa district will include the state of Oklahoma and a portion of Kansas.

Crausbay Supply Company, P. O. Box 664, Houston, describes the power reverse gear which the company has designed to fit any single or twin cylinder steam oil field drilling engine in a four-page folder recently issued. This new product, in brief, is a simple device which utilizes the power of steam to perform the task of shifting the reverse lever. The principle of construction and operation are outlined in a figure drawing, while illustrations of field installations are shown. The company will supply this descriptive literature upon request.

Hercules Motors Corporation, Canton, Ohio, manufacturers of heavy-duty engines, announces a change in the address of the Hercules European representatives. Hereafter the headquarters of Automotive Products Company, distributors of Hercules engines and power units for Great Britain and Continental Europe, exclusive of U. S. S. R., will be located at Brock House, Langham Street, London, W.1, England.

Worthington Pump & Machinery Corporation, 2 Park Avenue, New York City, has acquired Gilman Manufacturing Company, East Boston, Massachusetts. This enables the company to expand its line of pneumatic service to mines, quarries, contractors and industry—manufacturing under one head with one responsibility, the Gilman line of rock drilling equipment which supplements the established line of Worthington feather valve air compressors. No change of personnel in either organization is contemplated.

Landis Machine Company, Inc., Waynesboro, Pennsylvania, has issued a new bulletin descriptive of the Landex head for application to automatic machines. This bulletin also shows the Landex head with internal tripping mechanism, as well as the application of this type of head to various makes of automatic screw machines.

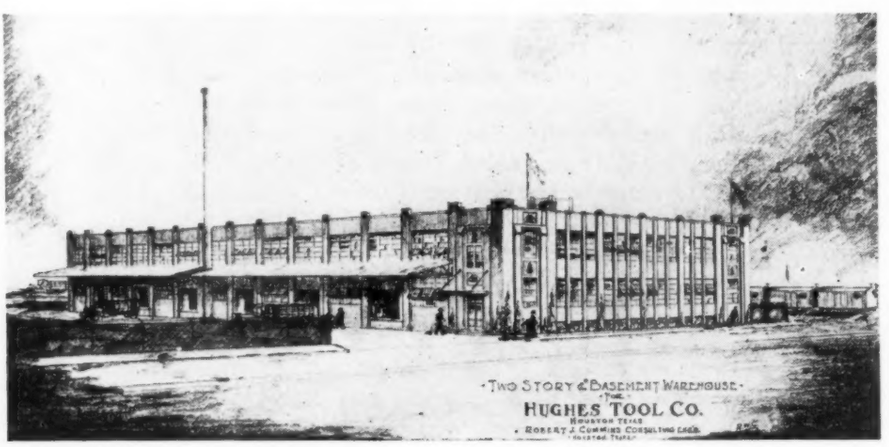
J. A. Kammerdiner, 237 South Highland Avenue, Los Angeles, improved rotary drilling jars are described as having many new improvements in a pamphlet recently issued by the manufacturer. The leading improvements include new features in the jar mandril as well as improvements in the method of holding the wash pipe spring in place. A copy of this new pamphlet may be had by writing the above address.

Bacharach Industrial Instrument Company, 7000 Bennett Street, Pittsburgh, has issued Bulletin 262, covering Bacharach engine indicators, Maihak type. The bulletin covers recent developments in the company's line of Maihak engine indicators, and will be forwarded to interested persons on request.

Hughes Tool Company is erecting the $350,000 finished stock and shipping department building pictured below—further assurance to the oil producing industry of receiving efficient, immediate 24-hour day service on Hughes rock bits, core bits, tool joints, drilling valves, fittings, etc. This two-story building with basement will be of reinforced concrete construction, equipped with the most modern facilities, and fire-proofed throughout.

The building has been designed to include all possible conveniences to better serve the petroleum industry with accuracy and promptness. Of the total floor area of 147,000 square feet, sufficient open space will be assigned for the laying-out of all orders to insure thorough check and that all instructions have been complied with as to marking, etc.

The design of construction and equipment also include: Railroad switch track on one side of building, serving six doors, making possible the loading of six cars simultaneously; six doors likewise serve opposite sides of building for loading trucks, with crane projecting over drive-way; basement and first floor served from driveway on ground level by ramps, allowing for handling of material by trucks; all floors equipped with electric elevator service; material in basement and on first floor handled by power trucks and electric cranes, as well as gravity conveyors, and installation of sprinkler system throughout, minimizing fire hazard.



The American Electric Pumping Jack

Pays for Itself in Actual Dollars Saved You

We want you to know more about this all-steel, electrically-welded money, time, and trouble saver. We want to tell you what this jack is actually doing in many fields, under all kinds of conditions.

Roller Bearings, Alemite Equipped

Crank-shaft, intermediate gear shaft, connecting rod and walking beam, equipped with high duty inner and outer race combination radial and end thrust roller bearings. Gears running in oil. Bearings Alemite-equipped. Rugged, high-grade motor mounted directly on base frame. Weather-proof protection for motor and control equipment.

Write Today for Specifications and Net Prices.

The American Crane Co.
Friendship, New York

CONTRACTS TAKEN FOR
TORSION BALANCE
and
MAGNETOMETER SURVEYS
With the Collaboration of
DONALD C. BARTON
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CONSULTING GEOPHYSICIST

Sole American Representative:
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Original Eotvos Visual
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"Favorite of the Oil Fields"

UNRIVALLED for SERVICE

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Phone 2-1117

SQUEAKS FROM THE BULL WHEEL

"How's your car running?"
"Not so good; can't get her throttled down."
"How's your wife?"
"She's the same, thank you."

"Ma, I got Greece on the radio last night."
"You wipe it right off before your father sees it."

Wife (during quarrel): "You're becoming absolutely unbearable. It will soon be impossible to live with you."
Hub. (hopefully): "How soon?"

Curious: "Why do they call sail boats 'she?'"
Cautious: "Because they make a better showing in the wind."

"What shall I do? I'm engaged to a man who says he simply can't bear children?"
"Well, you can't expect too much from a husband."

Knockout Riley—Cheeze, kid, dat last article you wrote for de paper wuz a pippin.
One-Round Pete—Dat's wot dey tell me. Y'know, buddy, sometimes I wish't I could read.—Life.

Urey—Yes, I had a little balance in the bank, but I got married two months ago, and now—
Fuqua—Ah, love makes the world go round.
Urey—Yes, but I didn't think it would go around so fast as to cause me to lose my balance.

A young lady who wanted to keep up with the latest style went into a dry goods store and called for a pair of rolled hose. The clerk was quite equal to the occasion, for he said pleasantly, "Have a seat, miss. We roll them free of charge."

A man who had been waiting patiently in the postoffice could not attract the attention of either of the girls behind the counter.
"The evening cloak," explained one of the girls to her companion, "was a redingote design in gorgeous brocade, with fox fur and wide pagoda sleeves."
At this point the long suffering customer broke in with: "I wonder if you could provide me with a neat red stamp with a dinky perforated hem, the tout ensemble treated on the reverse with gum arabic? Something about two cents."

"Do you prefer beer or wine?"
"Well, that depends."
"On what?"
"On who's paying."

Kitty—How do you like my dress? Dad gave it to me for my eighteenth birthday.
Cattie—It's certainly worn well, hasn't it?

Tommy came home proudly showing a quarter that he said he had found in the street.
"Are you sure it was lost?" his father asked.
"Yes, I know it was. I saw a man looking for it."

How big his ears are!
Maybe he'll grow into them.

Old Gent: Now, can you give me a good reason why I should give you a nickel?
Small Boy: I sure can. If I was an old gentleman with a nice new plug hat on and there was lots of nice black mud handy, and a kid asked me for a nickel, I wouldn't start no argument.

"This vase is 2000 years old! Be very careful in carrying it."
"You can depend on me Professor; I'll be as careful of it as if it were new!"

Ed Wynn, star of the late "Simple Simon" show, had a difficult time with the census taker recently. He asked Ed if he had a radio. "Yes," said Wynn, "a little one."
"How little?" asked the man.
"Oh, very little," said Ed.
"Well, what do you mean by very little?"
"It's so little," chirped Wynn, "that when Amos 'n Andy are on I can only get Amos!"—Daily Mirror.

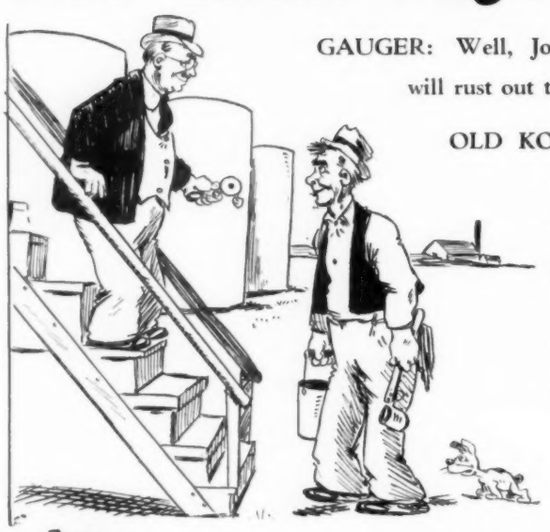
Tardy Plumber: Well, here I am; and how's things?
Optimistic Householder (three feet deep in water): Oh, not so bad. While I've been waiting for you I've taught the wife to swim.—*College Life.*

Is the manager in?
No, he just went out to lunch with his wife.
I see. When he gets back with the stenographer tell him his wife called.

I came within an inch of being a great war hero once.
Tell me all about it.
I was just that much too short to get into the army.

My father doesn't keep those smelly pigs in our back yard any more.
How's that?
The neighbors got wind of it.

Old Kon Says—



GAUGER: Well, Joe, reckon this run will rust out this pipe line?

OLD KON: Say, if there's any wet in that there oil after I've given her the gun with Kontol, then I'm a prohibition agent.

THE KONTOL CO.
10th Floor Santa Fe Bldg., Dallas, Texas

KONTOL

For the Treatment of Oil Emulsions

GREAT tanks of oil. What damage one spark could cause! No wonder oil men demand the dependable protection of Cyclone Fence. It is strong, durable, economical. Made of copper-steel, heavily galvanized. Erected on H-Column posts.

Cyclone Fence is the standard protection for tank farms, refineries, bulk stations, etc. Erected by our own trained men. Prompt service everywhere. Write for information.

CYCLONE FENCE COMPANY

Subsidiary of United States Steel Corporation

Works and Offices: Fort Worth.

Direct Factory Branches and Warehouses: Houston, Dallas, Tulsa.
Also Sales Offices: New Orleans, Shreveport

All chain link fence is not Cyclone. This name plate identifies the genuine Cyclone Fence

Cyclone Fence

REG. U.S. PAT. OFF.

(c) C. F. Co. 1930

Another "American" Installation

Illustrated above is an installation with a No. 3 "American" individual pumping unit showing use of Tex-rope drive. This unit is adaptable for 18″ or 22″ stroke. It is furnished for belt drive or drive as shown.

The "American" individual oil well pumping unit is made in six sizes. They are compact and have few moving parts. All gears and pinions are oil immersed. All of the bearings except two are automatically lubricated. The power consumption is small and the units are easily counter-balanced.

All of these units give a straight lift on the polish rod and the special mule head and cable sling protect the unit in case of well sanding.

Catalogs sent upon request.

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THE AMERICAN WELL WORKS

General Offices AURORA, ILLINOIS, *and Factory*

12,000 UNITS

Installed throughout the world are furnishing Layne Users with over fifteen billion gallons of well water each day. Being built and installed by one concern, there was no divided responsibility and the purchaser got results or paid nothing.

The services of our experts are available. Consult them about your water supply or pumping job. No obligation.

Write for bulletin.

LAYNE & BOWLER, Inc.
MEMPHIS, TENNESSEE

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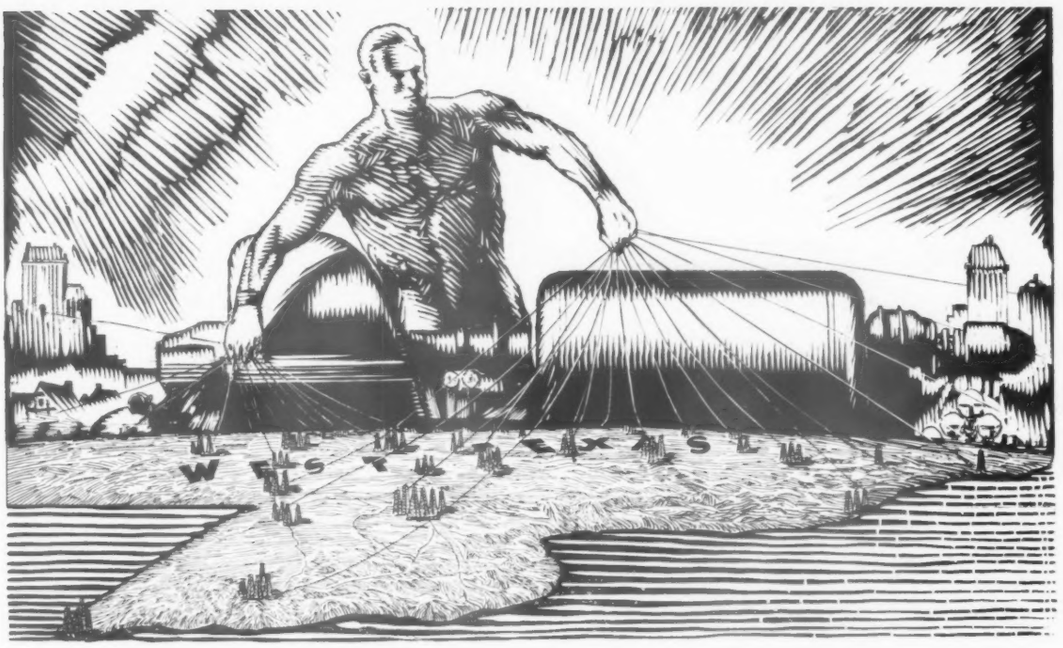

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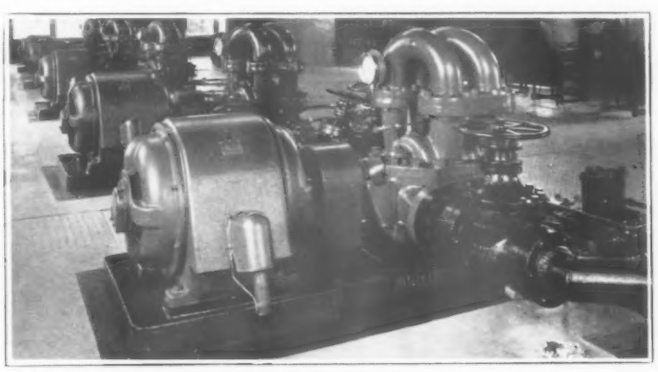
For Oil Well Pumping
For Pipe Line Pumping
For Oil Refining . . . . .



Typical Oil Pipe Line Pumping Station

MEANS

—lower installation cost

—lower labor cost

—lower maintenance cost

—lower total cost per barrel produced

—greater over all efficiency

—more dependable service

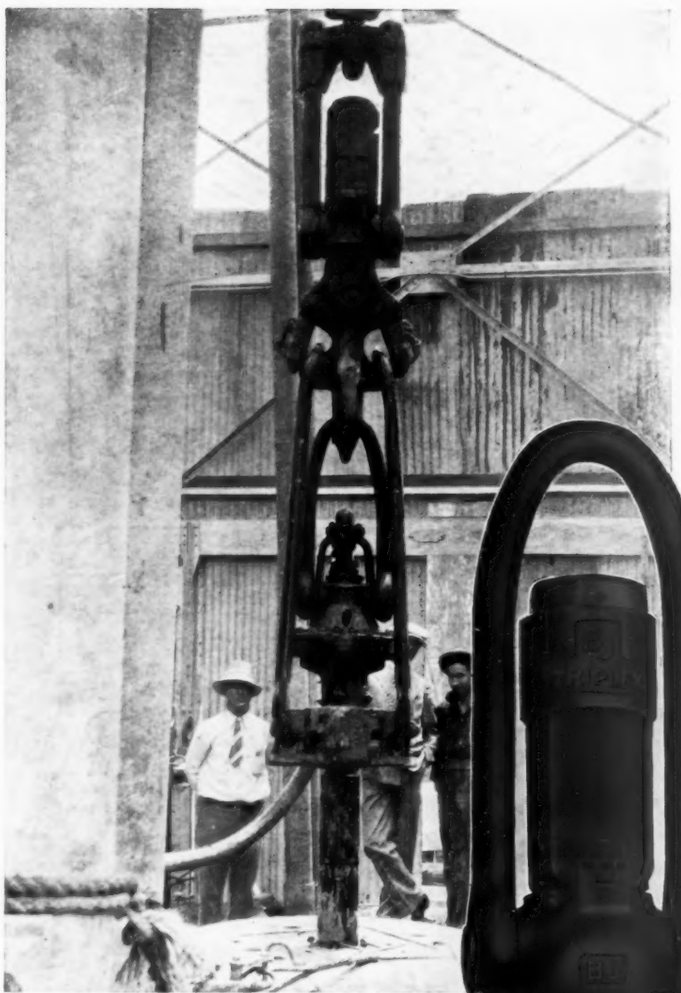
—reduced investment hazard

—greater safety of operation

Details Available Without Obligation

Texas Electric Service Company

General Offices: Fort Worth



Actually Stronger under Load!

A RUGGED HOOK . . . or rather three hooks . . . one for the swivel bail and one for each elevator link . . . safe and easy to handle.

When the large hook takes the swivel bail, the locking arm automatically closes to form a complete link. The arms on the two side hooks (for elevator links) drop into locked position and cannot be opened except by the operator.

All three hooks, when closed, are virtually links which greatly reduce internal distortional stress . . . an ever-present weakness of ordinary hooks.

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